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Tanana FAA Facility Groundwater Monitoring, October-November 2000

**Fuel Storage Tank
Management Program and
Expanded Site Investigation/
Interim Cleanup
Tanana, Alaska**

**Contract No.
DTFA04-00-D-10002**

**Delivery Order
DTFA04-00-F-C0075**

Prepared for



**Federal Aviation
Administration**

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July 2001

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Tanana FAA Facility Groundwater Monitoring, October-November 2000: Delivery Order 75

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PREPARED BY: CH2-OH of Alaska

DATE: July 27, 2001

CH2-OH of Alaska conducted groundwater monitoring and sampling of 21 monitoring probes and 20 monitoring wells (Figure 1) at the Federal Aviation Administration (FAA) former Living Quarters Facility in Tanana, Alaska, from October 30 to November 3, 2000. CH2-OH prepared this letter report to summarize the field activities and report the results related to the November 2000 sampling event.

WATER DEPTH MEASUREMENTS

Groundwater measurements were collected on October 30 to October 31, 2000. An oil-water interface probe (IP) was used to measure the depth to groundwater from the top of riser pipe. The groundwater depth in two monitoring probes and one monitoring well was not measured because the probes and well were dry. The depth measurements for the remaining wells and probes have been converted to groundwater elevations and are presented in Table 1. Four monitoring wells (MW006, MW007, MW008, and MW017) and four monitoring probes (MP012, MP015, MP025, and MP028) contained 0.01 feet floating product. Monitoring probes MP002 and MP013 contained 1.17 and 0.86 feet of floating product, respectively. The groundwater elevations in these wells were adjusted to account for the thickness and assumed specific gravity of the floating product. Measurements from previous monitoring events are presented for comparison. During this sampling event, the groundwater elevation was higher than the top of the screened interval in monitoring probe MP029.

Table 1
Tanana FAA Facility Groundwater Elevations⁽¹⁾

Well Number	October 18, 1999	February 1, 2000	April 24, 2000	May 24, 2000	June 21, 2000	July 17, 2000	August 21, 2000	October 30-31, 2000
MW001	74.89	73.2	73.59	80.77	88.18	83.27	82.90	76.94
MW002	74.86	73.14	73.54	80.79	88.14	83.21	82.88	76.93
MW003	74.26	73.14	73.58	80.81	88.11	83.17	82.86	76.91
MW004	73.76	73.15	73.56	80.81	88.09	83.15	82.87	76.89
MW005	74.16	73.12	73.6	80.18	87.44	82.51	82.86	76.86
MW006	74.12	73.08	73.53	80.85	Flooded	83.12	82.86	76.88 ⁽²⁾
MW007	73.99	73.08	73.54	80.86	88.06	83.10	82.80	76.85 ⁽²⁾
MW008	73.97	73.08	73.54	80.93	88.03	83.11	82.97	76.92 ⁽²⁾
MW009	74.36	73.14	73.53	81.01	88.01	83.13	83.08	76.98



Well Number	October 18, 1999	February 1, 2000	April 24, 2000	May 24, 2000	June 21, 2000	July 17, 2000	August 21, 2000	October 30-31, 2000
MW010	74.36	73.13	73.5	80.87	87.97	83.15	82.98	76.99
MW011	74.2	73.15	73.52	80.91	88.07	83.12	82.96	76.97
MW012	74.67	73.14	73.49	80.97	88.02	83.16	83.07	77.12
MW013	74.68	Dry	73.53	80.81	87.95	83.10	82.92	76.99
MW014	74.13	73.15	73.56	80.77	Frozen	Frozen	82.90	76.96
MW015	77.19	75.14	74.26	79.00	85.14	84.33	82.60	78.80
MW016	73.94	73.08	Flooded	Flooded	Flooded	Destroyed	Flooded	76.91
MW017	73.84	73.08	73.53	80.93	88.04	83.10	82.92	76.88 ⁽²⁾
MW018	73.95	73.14	73.56	7.67	87.97	83.23	82.86	76.97
MW019	77.08	75.12	74.12	17.5	85.24	84.27	82.61	78.72
MW020	Dry	Dry	70.97	Dry	Dry	Dry	Dry	Dry
MP001	77.15	Frozen	Dry	79.18	Frozen	Frozen	Frozen	78.42
MP002	76.98	Frozen	Frozen	Frozen	Frozen	Frozen	82.62 ⁽²⁾	78.20 ⁽²⁾
MP003	74.4	72.8	Flooded	Frozen	Frozen	Frozen	82.65	78.36
MP006	93.43	Frozen	Flooded	Frozen	Frozen	Frozen	Frozen	93.49
MP007	75.31	Frozen	Flooded	Frozen	Frozen	80.43	80.31	Dry
MP008	75.43	74.92	73.38	80.88	88.06	83.13	82.89	76.86
MP009	75.09	72.71	73.20	81.42	88.76	83.80	82.83	76.71
MP010	75.37	73.08	73.54	80.84	88.10	83.18	82.90	76.91
MP011	Dry	Frozen	Dry	80.87	88.03	83.09	82.87	Dry
MP012	75.59	73.09	73.51	81.09	88.05	83.14	83.02	76.92 ⁽²⁾
MP013	74.81	72.98	Flooded	80.9	88.02	Not measured	82.90 ⁽²⁾	76.75 ⁽²⁾
MP014	75.43	Frozen	Flooded	Frozen	Frozen	83.15	82.90	76.84
MP015	75.61	73.09	Flooded	Frozen	88.02	83.15	82.97	76.97 ⁽²⁾
MP016	74.66	Dry	Dry	Frozen	Frozen	83.07	82.80	76.25
MP017	75.35	73	Dry	80.97	88.02	83.10	82.84	76.86
MP018	75.43	73.06	Flooded	Frozen	Frozen	Frozen	82.87	76.92
MP023	75.58	73.09	Frozen	Frozen	88.05	83.15	82.96	76.95
MP024	75.34	73	Flooded	80.88	88.08	83.15	82.87	76.78
MP025	75.43	72.98	Flooded	Frozen	88.03	83.10	82.92	76.82 ⁽²⁾
MP028	75.44	73.08	Flooded	80.94	88.08	83.15	82.88	76.89 ⁽²⁾
MP029	74.85	72.38	Frozen	80.82	88.07	83.06	82.73	76.50
Yukon River Level (feet) ⁽³⁾	No data	No data	No data	8.53	16.8	No data	12.28	5.56

Notes:

1. Groundwater elevations are based on depth to water from the surveyed top of casing elevation. The top of casing elevations are referenced to an assumed datum of 100.00 feet at a 2-1/2 inch diameter BLM brass cap monument located northeast of the site. The cap is stamped "L1, C1, C1 L12, S5958, 1993.
2. Groundwater elevations in these wells and probes are based on the thickness of floating product with an assumed specific gravity of 0.8.
3. The daily Yukon River levels were obtained from the National Weather Service - Alaska River Forecast Center.



Figure 2 shows the apparent groundwater elevation contours for the site. The groundwater gradient and the flow direction have changed since the August monitoring event. The groundwater gradient across the site has increased from 0.03 in August to 0.3 in October. At the same time, the Yukon River level has decreased by approximately 7 feet (Table 1). The groundwater flow direction in the area of the state building and Shop Building No. 205 was to the northeast in August and to the southwest, toward the Yukon River, in October. In August, the stream in the western portion of the site was a losing stream, causing groundwater to flow away from it to the east. During the October monitoring event, the stream had no affect on groundwater flow. As in August however, the groundwater near the Yukon River still flows to the west with a very flat gradient.

SAMPLING OF MONITORING WELLS AND PROBES

Nineteen of 20 existing wells were sampled from October 31 through November 2, 2000. Monitoring well MW020 was dry. Seventeen of 21 monitoring probes were sampled. Monitoring probes MP002 and MP013 were not sampled due to the presence of >0.01 feet of floating product. Monitoring probes MP007 and MP011 were dry. CH2-OH collected, packed, and shipped the samples from the remaining wells and probes to Analytica Alaska, Inc. in Anchorage Alaska for analysis. All purge water generated was filtered through a granular activated carbon filter and discharged on the ground.

WELL PURGING AND FIELD SCREENING

All sampled wells were field screened for temperature, pH, conductance, turbidity, salinity, and dissolved oxygen (DO) before sampling. Table 2 lists the volume of water purged and final field screening results after purging.

Table 2
Tanana FAA Facility Water Quality Field Screening Data
November 1-3, 2000

Well Number	Volume Purged (gallons)	Temperature (°C)	pH	Conductance (ms/m)	Turbidity (NTU)	Salinity (%)	DO (mg/L)	Floating Hydrocarbon Product
MW001	2.25	1.3	6.57	79	382	0.03	2.30	No
MW002	1.75	2.1	6.73	87	362	0.03	7.59	No
MW003	1.5	0.1	7.13	76	95	0.03	0.94	No
MW004	1.5	1.2	7.06	101	999	0.04	8.16	No
MW005	2	3.4	6.55	57	190	0.02	3.34	No
MW006 ⁽¹⁾	2	5.0	5.99	38	482	0.01	1.63	Sheen
MW007 ⁽¹⁾	1	4.9	6.73	46	234	0.01	4.81	Sheen
MW008 ⁽¹⁾	1	2.6	6.63	65	999	0.02	0.48	Sheen
MW009	1.25	2.2	6.53	40	74	0.01	0.83	No
MW010	2	2.6	6.16	61	173	0.02	0.41	No
MW011	1	2.0	6.60	95	899	0.03	2.17	No
MW012	1.5	2.2	7.60	32.0	999	0.01	1.37	No



Well Number	Volume Purged (gallons)	Temperature (°C)	pH	Conductance (ms/m)	Turbidity (NTU)	Salinity (%)	DO (mg/L)	Floating Hydrocarbon Product
MW013	1.5	0.0	7.65	106	999	0.04	0.62	No
MW014	1.5	0.0	6.90	116	279	0.04	0.58	No
MW015	1.25	0.2	6.92	132	999	0.05	0.20	No
MW016	1.25	2.2	7.33	17	999	0.00	0.82	No
MW017 ⁽¹⁾	1.5	4.2	6.51	52	999	0.02	0.37	Sheen
MW018	0.875	1.2	5.72	128	659	0.05	0.32	No
MW019	1.5	0.3	6.36	143	999	0.06	0.92	No
MW020				Well not sampled. Dry.				No
MP001	1.06	0.0	6.47	151	654	0.06	0.46	No
MP002				1.17 ft floating product present. Probe not sampled.				Yes
MP003	1.13	0.0	6.80	163	999	0.06	0.01	Sheen
MP006	1.25	0.1	6.89	152	437	0.06	0.34	Sheen
MP007				Probe not sampled. Dry.				No
MP008	1.13	0.6	6.38	138	999	0.05	7.16	No
MP009	1.25	0.4	6.95	113	999	0.04	6.71	No
MP010	1.13	0.5	6.92	83.8	381	0.03	3.20	No
MP011				Probe not sampled. Dry.				No
MP012 ⁽¹⁾	1.13	2.9	6.20	26	999	0.00	1.85	Sheen
MP013				0.86 ft floating product present. Probe not sampled				Yes
MP014	1.13	1.6	6.80	100	527	0.04	1.21	No
MP015 ⁽¹⁾	1.13	2.7	6.01	56	400	0.02	1.50	Sheen
MP016	1.13	1.4	6.71	100	999	0.04	3.94	No
MP017	1.13	1.2	6.92	114	999	0.04	3.35	No
MP018	1.13	0.4	6.73	121	389	0.05	3.58	Sheen
MP023	1.13	2.4	6.86	53	540	0.02	0.82	No
MP024	1.13	1.0	6.84	113	533	0.04	0.80	No
MP025 ⁽¹⁾	1.13	3.2	6.39	39	999	0.01	1.35	Sheen
MP028 ⁽¹⁾	1.13	2.6	6.24	45	815	0.01	1.55	Sheen
MP029	1.13	2.89	6.53	29	999	0.01	3.89	Sheen

Notes: 1. These wells and probes contained 0.01 feet of floating product. Monitoring wells and probes containing 0.02 feet or more of floating product were not sampled.

SAMPLE COLLECTION AND ANALYSIS

All wells were sampled following procedures outlined in Addendum No. 4 to Pre-Field Planning Document (PFPD), Tanana FAA Station Release Investigation and Quality Assurance Project Plan (CH2-OH, August 2000). Groundwater samples were submitted to Analytica Alaska Inc. for the analysis of gasoline-range organics, benzene, toluene,



ethylbenzene, and total xylenes (GRO/BTEX) by State of Alaska (AK) Method AK101/8021B, and for diesel-range organics (DRO) by AK102.

Quality assurance and quality control (QA/QC) measures outlined in the PFPD were followed. Four trip blanks, prepared by Analytica Alaska, Inc., were shipped back to the laboratory and analyzed for GRO/BTEX analysis by AK101/8021. Three equipment blanks were collected and submitted for DRO and GRO/BTEX analysis.

ANALYTICAL RESULTS

Table 3 summarizes laboratory analytical results for the groundwater samples. Attachment 1 contains the laboratory data.

Table 3
Tanana FAA Facility Groundwater Monitoring Analytical Results
November 1-3, 2000

Well Number	Sample Number	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethylbenzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)	GRO ($\mu\text{g/L}$)	DRO ($\mu\text{g/L}$)
MW001	TAL00MW001Q04	ND	ND	ND	ND	ND	ND
MW002	TAL00MW002Q04	ND	ND	ND	ND	ND	140
MW003	TAL00MW003Q04	2.6	ND	3.7	6.5	ND	200
No-Purge Split (MW003)	TAL00MW043Q04	ND	ND	ND	ND	ND	ND
MW004	TAL00MW004Q04	ND	ND	ND	ND	ND	ND
MW005	TAL00MW005Q04	ND	ND	ND	ND	ND	210
MW006	TAL00MW006Q04	ND	ND	2.4	5.5	160	2,500
MW007	TAL00MW007Q04	ND	ND	ND	ND	ND	ND
No-Purge Split (MW007)	TAL00MW044Q04	ND	ND	ND	ND	ND	ND
MW008	TAL00MW008Q04	ND	ND	13	30	560	4,100
MW009	TAL00MW009Q04	ND	ND	ND	ND	ND	ND
MW010	TAL00MW010Q04	ND	ND	ND	ND	ND	ND
No-Purge Split (MW010)	TAL00MW042Q04	ND	ND	ND	ND	ND	120
MW011	TAL00MW011Q04	ND	ND	ND	ND	ND	ND
MW012	TAL00MW012Q04	ND	ND	ND	ND	ND	ND
MW013	TAL00MW013Q04	ND	ND	ND	ND	ND	180
MW014	TAL00MW014Q04	ND	ND	ND	ND	ND	1,200
MW015	TAL00MW015Q04	3.4	ND	3.5	5.7	ND	3,800
MW016	TAL00MW016Q04	ND	ND	ND	ND	ND	ND
MW017	TAL00MW017Q04	ND	ND	4.6	22	1,900	1,800
MW018	TAL00MW018Q04	4.5	ND	4.4	9.0	ND	4,200
MW019	TAL00MW019Q04	ND	ND	ND	ND	ND	110
MW020		Well was dry. Not sampled.					
MP001	TAL00MP001Q04	ND	ND	ND	ND	ND	500
MP002		Contained 1.17 feet of floating product. Not sampled.					
MP003	TAL00MP003Q04	250	34	ND	1,100	5,700	67,000
MP006	TAL00MP006Q04	200	ND	200	630	7,400	40,000
MP007		Well was dry. Not sampled.					



Well Number	Sample Number	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	GRO (µg/L)	DRO (µg/L)
MP008	TAL00MP008Q04	ND	ND	ND	ND	ND	3,900
MP009	TAL00MP009Q04	ND	ND	ND	ND	ND	120
No-Purge Split (MP009)	TAL00MW041Q04	ND	ND	ND	ND	ND	110
MP010	TAL00MP010Q04	ND	ND	ND	ND	ND	110
MP011		Well was dry. Not sampled.					
MP012	TAL00MP012Q04	ND	ND	9.4	60	980	89,000
MP013		Contained 0.86 feet of floating product. Not sampled.					
MP014	TAL00MP014Q04	120	62	250	1,700	7,400	25,000
MP015	TAL00MP015Q04	ND	ND	ND	ND	ND	ND
MP016	TAL00MP016Q04	ND	ND	ND	ND	ND	210
MP017	TAL00MP017Q04	ND	ND	ND	ND	ND	190
MP018	TAL00MP018Q04	ND	ND	ND	2.0J	ND	200
MP023	TAL00MP023Q04	ND	ND	ND	2.2	ND	ND
MP024	TAL00MP024Q04	19	ND	160	510	2,000	7,700
MP025	TAL00MP025Q04	ND	ND	11	18	720	11,000
MP028	TAL00MP028Q04	ND	ND	12	18	330	3,700
MP029	TAL00MP029Q04	ND	ND	4.5	17	500	2,900
ADEC Groundwater Cleanup Levels (Table C)		5	700	2,000	10,000	1,300	1,500
MRL		1	1	1	2	100	100
<p>Notes:</p> <ol style="list-style-type: none"> 1. MRL = Method reporting limit 2. ND = Concentrations not detected above the method reporting limit 3. ADEC Groundwater Cleanup Levels = Maximum contaminant levels (MCL) determined by the ADEC according to Title 18, Chapter 75, Article 3, Table C, of the <i>Alaska Administrative Code</i> (18 AAC 75) 4. Bold numbers = Analytical result above MCL highlighted for comparison 5. J = Estimated value 							

The analytical results exceeding the Alaska Department of Environmental Conservation (ADEC) groundwater cleanup levels are highlighted in bold type in Table 3. Four monitoring probes (MP003, MP006, MP014, and MP024) contained benzene concentrations above the ADEC cleanup level of 5 micrograms per liter (µg/L). GRO was detected above its cleanup level of 1,300 µg/L in samples collected from four monitoring probes (MP003, MP006, MP014, and MP024) and from one monitoring well (MW017). Five monitoring wells (MW006, MW008, MW015, MW017, and MW018) and nine monitoring probes (MP003, MP006, MP008, MP012, MP014, MP024, MP025, MP028, and MP029) contained DRO concentrations above the ADEC cleanup level of 1,500 µg/L.

All other analytes from the remaining wells and probes were below the respective cleanup levels established by the ADEC.



NO-PURGE SAMPLING

All wells and probes were purged prior to sampling as outlined in the PFPD. In addition, four monitoring wells (MW003, MW007, MP009, and MW010) were sampled prior to purging in order to evaluate a no-purge sampling technique for the Tanana FAA site. No-purge split samples from MW003, MW007, MP009, and MW010 were labeled TAL00MW043Q04, TAL00MW044Q04, TAL00MW041Q04, and TAL00MW042Q04, respectively. Table 4 compares the purge and no-purge analytical results for eight sample locations from the August and November sampling events.

The results of the BTEX analyses were largely non-detectable. Of 32 no-purge/purge analyte pairs (4 BTEX analytes x 8 no-purge/purge sample pairs), only five produced results where at least one of the analytes was above the detection limit; one benzene analysis, two ethylbenzene analyses, and two xylene analyses. In 3 of the 5 cases the purged sample yielded a detectable concentration of analyte while the corresponding no-purge sample was not detectable. In all five cases, the purge sample yielded a higher analyte concentration than did the no-purge sample. Figure 3 is a scatter plot of these five sample pairs with an estimated regression line (slope of 0.58 and an r^2 coefficient of 0.67).

Of the 8 no-purge/purge GRO analyses pairs, one yielded analytical results above the detection limit. In this case the purge sample yielded a GRO concentration of 1,900 ug/L and no-purge sample yielded a concentration of 590 ug/L. Figure 4 shows the relationship between purge and no-purge results for this pair.

Of the 8 no-purge/purge DRO analyses pairs, 6 pairs yielded results with at least one sample above the detection limit. The purge samples returned a higher DRO concentration than the no-purge sample in 4 of the 6 cases. Figure 5 is a scatter plot of the six DRO sample pairs. The estimated regression line for this data has a slope of 0.93 and an r^2 coefficient of 0.89.

The slope of the regression line for DRO pairs suggests that there is no appreciable difference between purge and no-purge sampling. The slope of the regression line for BTEX pairs, however, is much lower (0.58) indicating that purged samples will have higher concentrations of BTEX analytes than will no-purge samples.

DATA VALIDATION RESULTS

CH2-OH performed the data review and validation for groundwater samples collected. Attachment 2 contains a chemical QA report.

The data quality for this quarterly groundwater sampling event at the Tanana FAA facility is acceptable. The laboratory and field QA/QC sample results were within control limits.

CONCLUSIONS

Floating product was encountered in four monitoring wells and six monitoring probes. Probes MP002 contained 1.17 feet of product and MP014 contained 0.86 feet of product. These two monitoring probes were not sampled. Monitoring wells MW006, MW007,



MW008, and MW012 and monitoring probes MP012, MP015, MP025, and MP028 were sampled because they contained only 0.01 feet of floating product.

The groundwater gradient increased from 0.003 in August to 0.03 in October, higher by a factor of 10. The groundwater flow direction during the October-November monitoring event was to the southwest toward the Yukon River, suggesting that at the October river levels, the Yukon was a gaining stream.

Groundwater-sampling results indicate that benzene was present above its cleanup level in monitoring probes MP003, MP006, MP014, and MP024. GRO was present above its cleanup level in MW017, MP003, MP006, MP014, and MP024. DRO was present above its cleanup level in MW006, MW008, MW015, MW017, MW018, MP003, MP006, MP008, MP012, MP014, MP024, MP025, MP028, and MP029.

The purge vs. no-purge sampling results indicates that there is no appreciable difference between the purge and no-purge results for semi-volatile DRO, but purge results for the more volatile GRO and BTEX compounds are higher than the no-purge results. Since BTEX and GRO are required analyses, no-purge sampling is not recommended.



Table 4
Tanana FAA Facility Purge vs. No-Purge Analytical Results
November 1-3, 2000

Well Number	Benzene		Toluene		Ethylbenzene		Xylenes		GRO		DRO	
	Purge (ug/L)	No Purge (ug/L)										
August Sampling Event												
MW009	ND	ND										
MW010	ND	ND										
MW019	ND	ND										
MP025	ND	ND	ND	ND	6.4	4.9	25	13	1,900	590	2,800	2,500
October-November Sampling Event												
MW003	2.6	ND	ND	ND	ND	3.7	ND	6.5	ND	ND	ND	ND
MW007	ND	ND										
MP009	ND	ND										
MW010	ND	ND										
MCL	5	700	2000	10000					1300	1500		
MRL	1	1	1	1	2	2	100	100	100	100	100	100

Notes:

ug/L = Micrograms per liter

MRL = Method reporting limit

ND = Concentrations not detected above the method reporting limit

MCL = Maximum contaminant levels determined by the ADEC according to Title 18, Chapter 75, Article 3, Table C, of the *Alaska Administrative Code* (18 AAC 75)



FIGURES

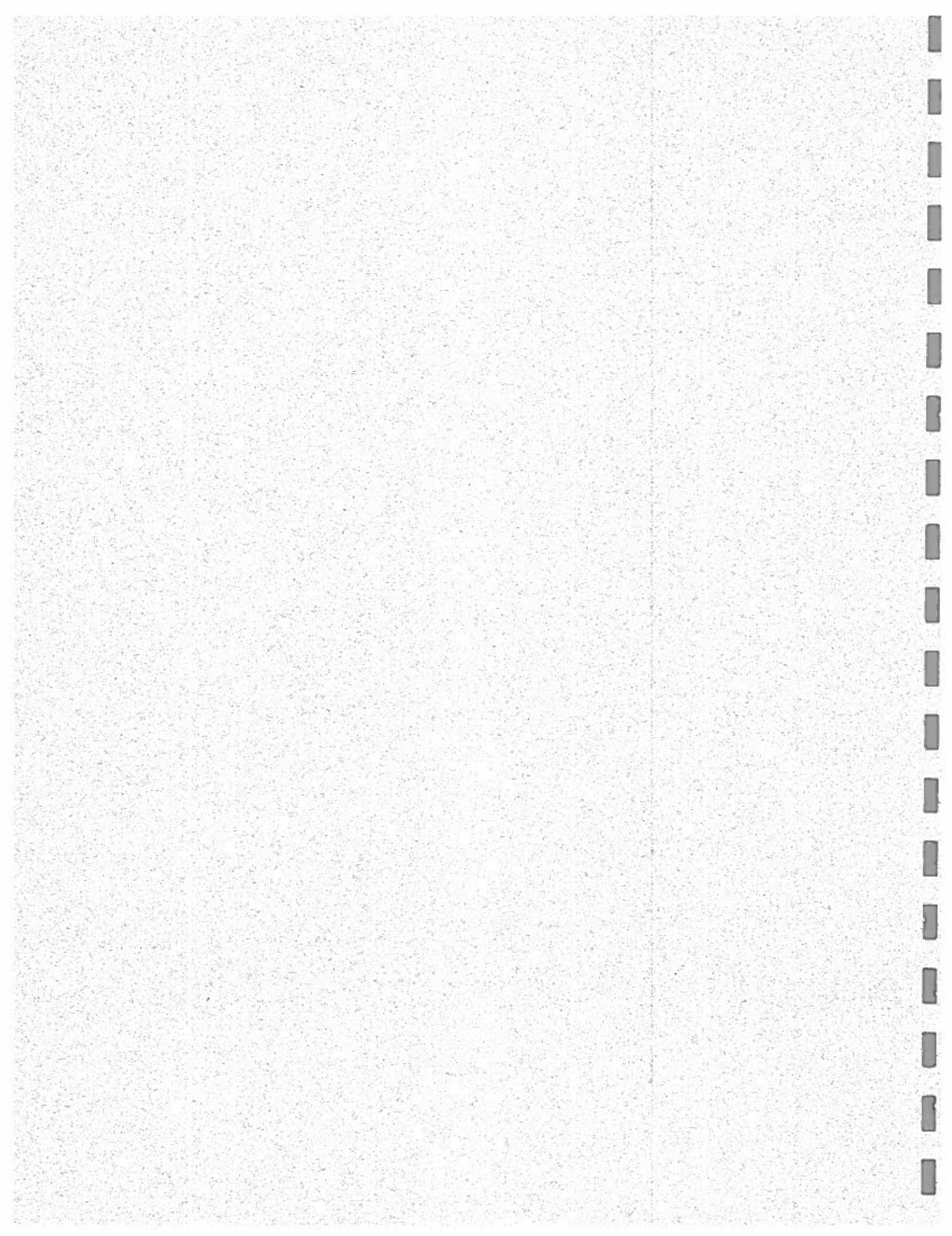


Figure 3
Scatter Plot for BTEX Purge and No-Purge Sampling Results
FAA Tanana Station, Alaska

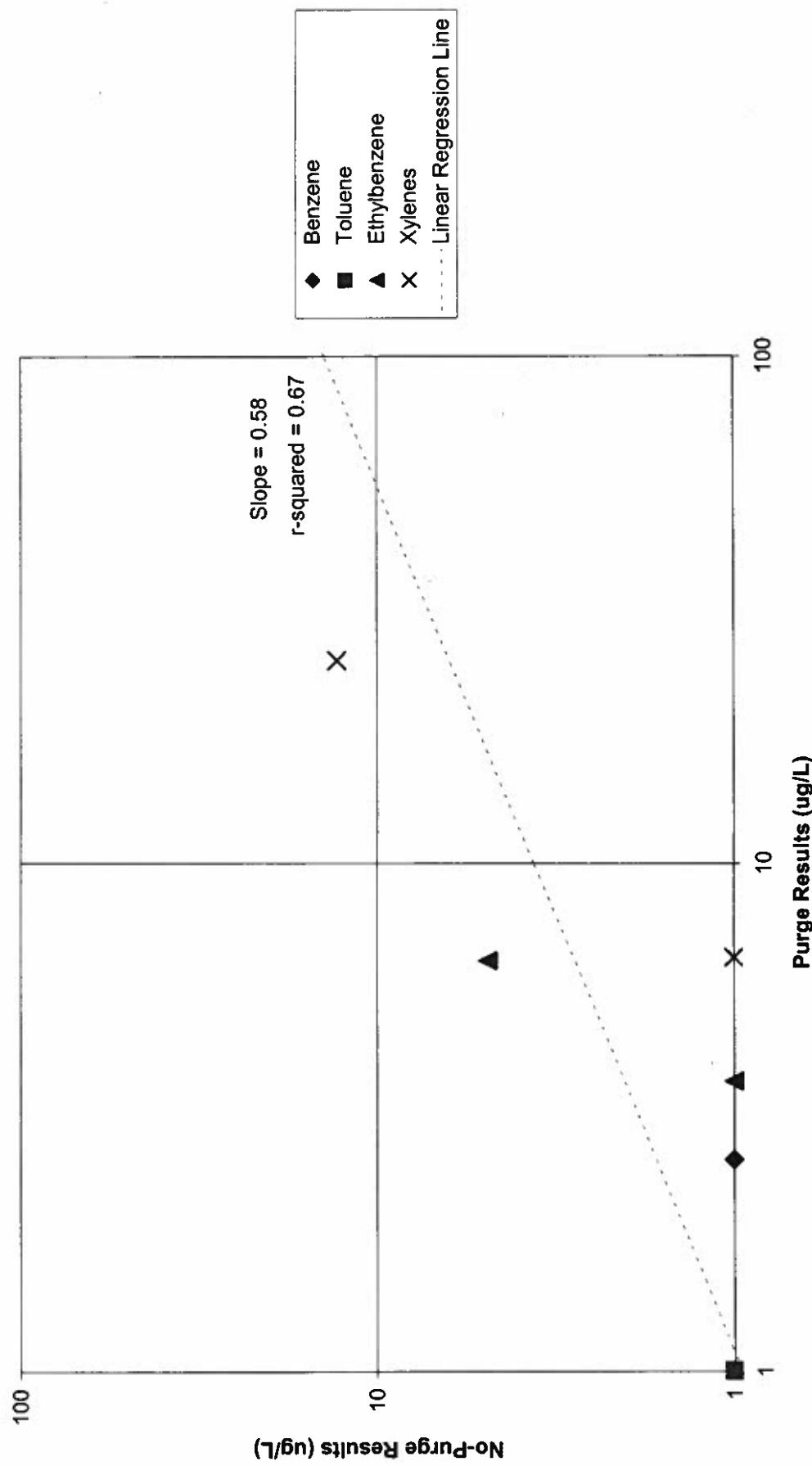




Figure 4
Scatter Plot for GRO Purge and No-Purge Sampling Results
FAA Tanana Station, Alaska

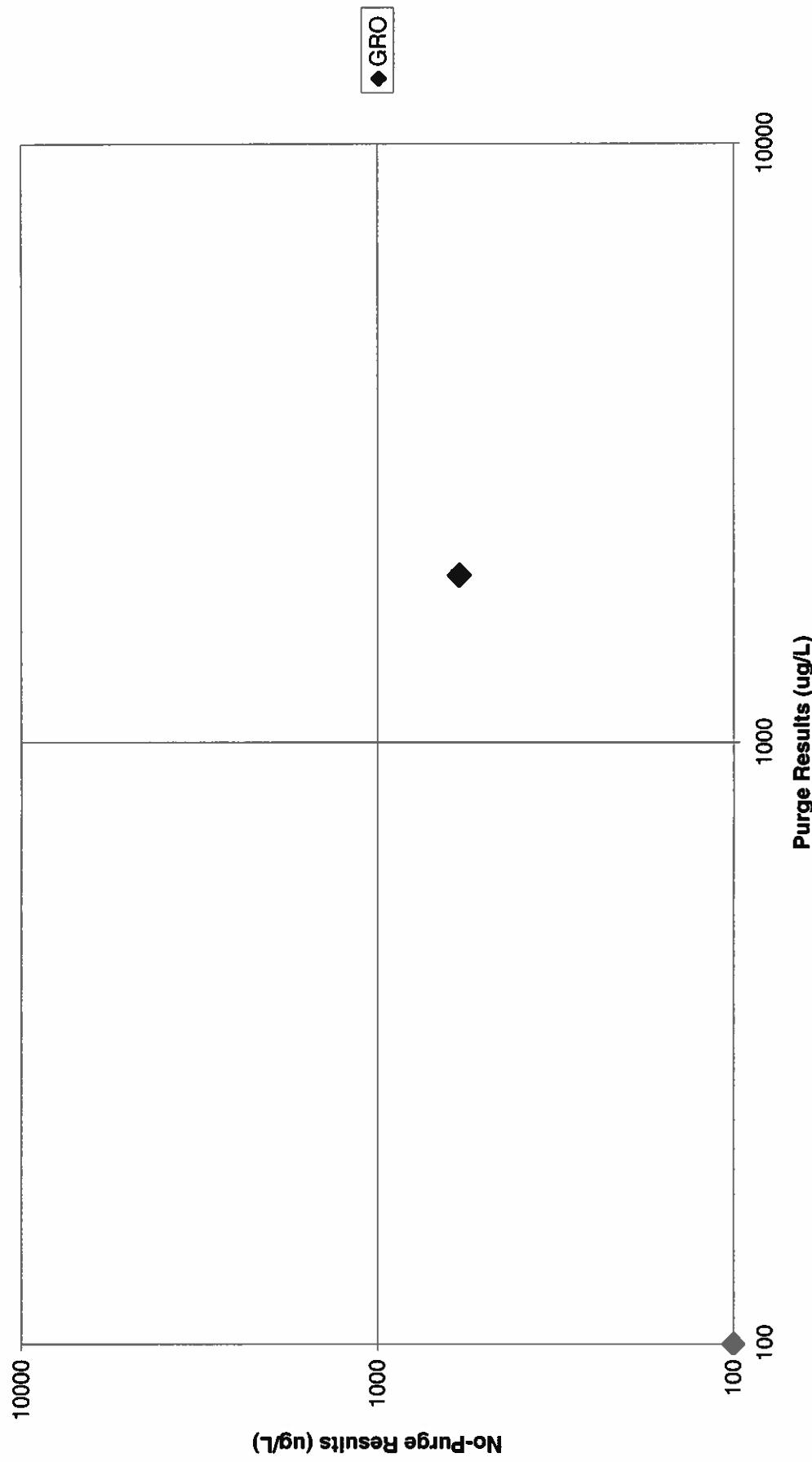
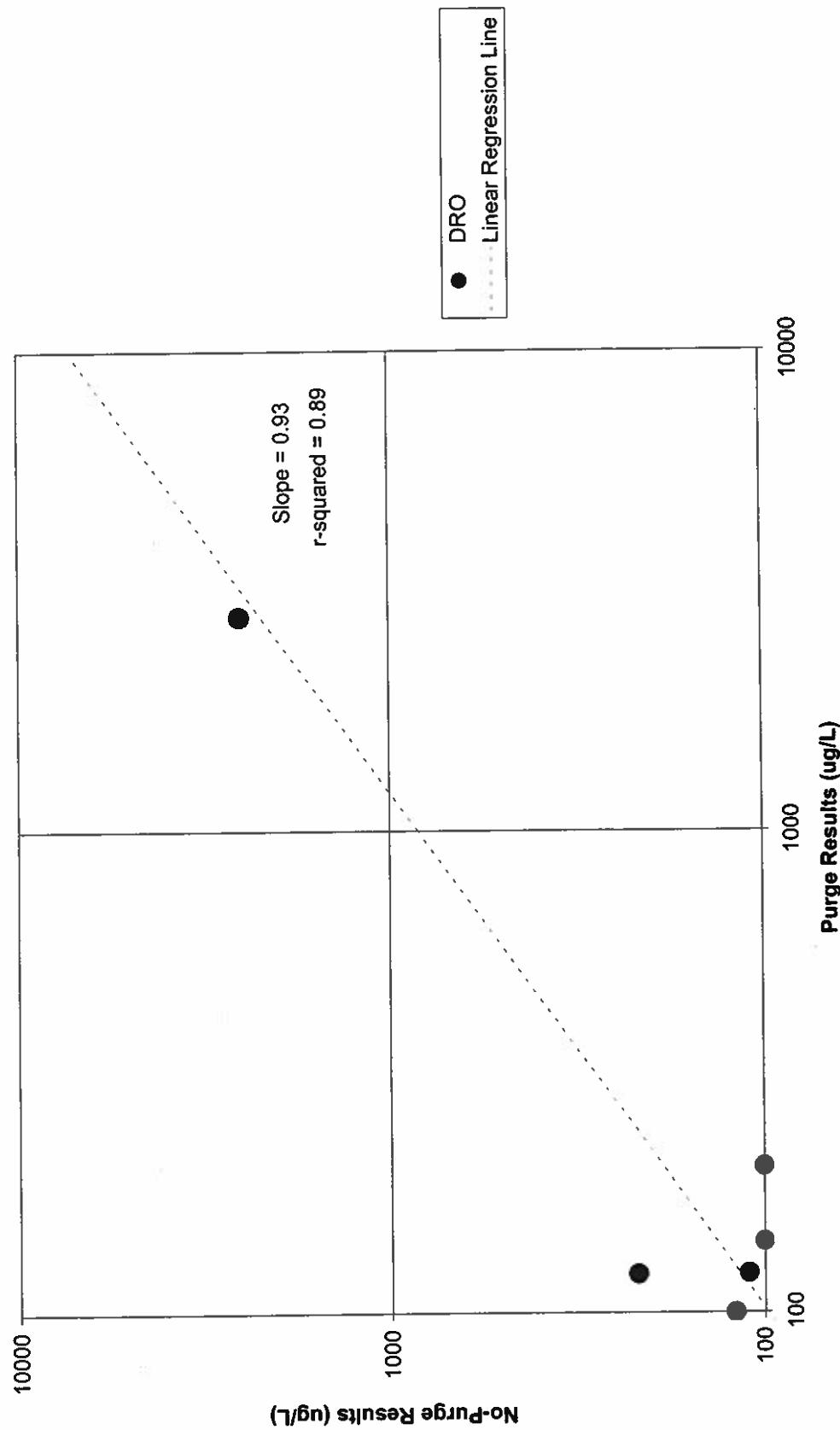




Figure 5
DRO Purge and No-Purge Sampling Results
FAA Tanana Station, Alaska



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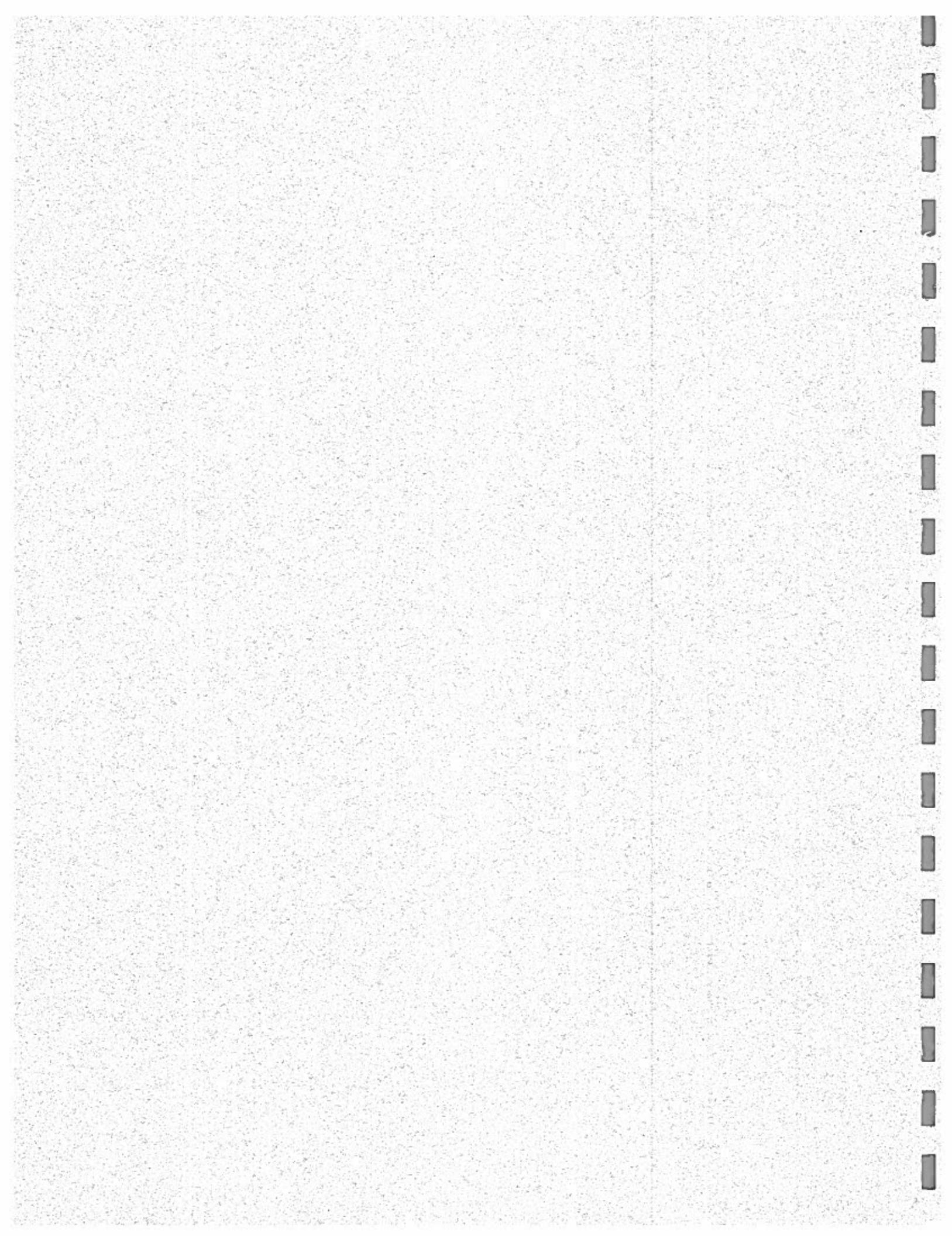
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ATTACHMENT 1
LABORATORY DATA





Analytica Alaska Incorporated
website: www.analyticagroup.com

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CH2M Hill of Alaska
301 W. Northern Lights Blvd.
Suite 601
Anchorage, AK 99503
Attn: Win Westervelt

RECEIVED BY
CH2M HILL AL
NOV 30 2000

Work Order #: A0011005
Date: 11/28/00
Work ID: FAA Tanana GWM
Date Received: 11/2/00

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
A0011005-01	TAL00MP001Q04	A0011005-02	TAL00MP006Q04
A0011005-03	TAL00MP018Q04	A0011005-04	TAL00MP009Q04
A0011005-05	TAL00MP010Q04	A0011005-06	TAL00MP017Q04
A0011005-07	TAL00MP024Q04	A0011005-08	TAL00MP014Q04
A0011005-09	TAL00MP016Q04	A0011005-10	TAL00MW041Q04
A0011005-11	TAL00MP003Q04	A0011005-12	Trip Blank

Enclosed are the analytical results for the submitted sample(s). Please review the CASE NARRATIVE for a discussion of any data and/or quality control issues. Listings of data qualifiers, analytical codes, key dates, and QC relationships are provided at the end of the report.

Sincerely,

Jason Gray
Project Manager

Case Narrative

Work Order: A0011005

ADEC Laboratory Approval Number: UST-014

The samples were received properly packed in one cooler at 3.1°C and were refrigerated upon receipt.

All quality control objectives were met for this project.

HOLDING TIMES

All samples were analyzed within the test method prescribed holding time.

INITIAL CALIBRATION

All samples met the test method acceptance criteria.

CONTINUING CALIBRATION

All samples met the test method acceptance criteria.

METHOD BLANKS

No detectable quantities of sought for analytes were found in the blanks.

QC SPIKE SAMPLES

All samples met the test method acceptance criteria.

MS/MSD

No MS/MSD samples were provided or requested.

SURROGATE RECOVERIES

All sample surrogate recovery was within the test method acceptance criteria.

COMPLETENESS

All of the results associated with this project are 100 percent useable.

Analyst _____

Date 11/28/00

Analyst _____

Date 11/28/00

Summary Tabular Analytical Report
Analytica Alaska Inc.
Work Order: A0011005

Project: FAA Tanana GWM

Client: CH2M Hill of Alaska

Client Project Number: FAA Tanana GWM

Analytical Method: DRO by AK 102

Sample Prep Method: 3510C

ID	Client Sample Name	UNITS: mg/L	Diesel Range Organics
01B	TAL00MP001Q04	0.50(0.11)	
02B	TAL00MP006Q04	40(0.54)	
03B	TAL00MP018Q04	0.20(0.10)	
04B	TAL00MP009Q04	0.12(0.11)	
05B	TAL00MP010Q04	0.11(0.10)	
06B	TAL00MP017Q04	0.19(0.10)	
07B	TAL00MP024Q04	7.7(0.10)	
08B	TAL00MP014Q04	25(0.54)	
09B	TAL00MP016Q04	0.21(0.10)	
10B	TAL00MW041Q04	0.11(0.10)	
11B	TAL00MP003Q04	67(1.1)	

Summary Tabular Analytical Report

Analytica Alaska Inc.

Work Order: A0011005

Project: FAA Tanana GWM

Client: CH2M Hill of Alaska

Client Project Number: FAA Tanana GWM

Analytical Method: BTX/GAS Water (8021)

Sample Prep Method: 5030B

UNITS: ug/L

ID	Client Sample Name	Benzene	Toluene	Ethyl Benzene	Xylenes	Gasoline Range Organics
01A	TAL00MP001Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
02A	TAL00MP006Q04	200(50)	ND(50)	200(50)	630(100)	7,400(5,000)
03A	TAL00MP018Q04	ND(1.0)	ND(1.0)	ND(1.0)	2.0J(2.0)	ND(100)
04A	TAL00MP009Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
05A	TAL00MP010Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
06A	TAL00MP017Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
07A	TAL00MP024Q04	19(5.0)	ND(5.0)	160(5.0)	510(10)	2,000(500)
08A	TAL00MP014Q04	120(10)	62(10)	250(10)	1,700(20)	7,400(1,000)
09A	TAL00MP016Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
10A	TAL00MW041Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
11A	TAL00MP003Q04	250(20)	34(20)	ND(20)	1,100(40)	5,700(2,000)
12A	Trip Blank	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP001Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-01B		Prep Date:	11/3/00						
Matrix:	Aqueous		Analysis Date:	11/6/00 7:38:00PM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:	W0110621.D						
Prep Batch Number:	A001106004		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Diesel Range Organics	n/a	0.50		mg/L	0.11	0.032				
Surrogate Results:										
o-Terphenyl	84-15-1	0.041		mg/L	0.0054	0.0011	0.054	75.4	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MP006Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-02B		Prep Date:	11/3/00						
Matrix:	Aqueous		Analysis Date:	11/27/00 2:27:00PM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:							
Prep Batch Number:	A001106004		Dilution Factor:	5						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Diesel Range Organics	n/a	40		mg/L	0.54	0.16				
Surrogate Results:										
o-Terphenyl	84-15-1	0.057		mg/L	0.027	0.0054	0.054	105.0	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP018Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-03B		Prep Date:	11/3/00						
Matrix:	Aqueous		Analysis Date:	11/6/00 8:32:00PM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:	W0110623.D						
Prep Batch Number:	A001106004		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Diesel Range Organics	n/a	0.20		mg/L	0.10	0.031				
Surrogate Results:										
o-Terphenyl	84-15-1	0.042		mg/L	0.0052	0.0010	0.052	80.1	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MP009Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-04B		Prep Date:	11/3/00						
Matrix:	Aqueous		Analysis Date:	11/6/00 8:59:00PM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:	W0110624.D						
Prep Batch Number:	A001106004		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Diesel Range Organics	n/a	0.12		mg/L	0.11	0.032				
Surrogate Results:										
o-Terphenyl	84-15-1	0.043		mg/L	0.0053	0.0011	0.053	80.5	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP010Q04	Collection Date:	10/31/00							
Lab Sample Number:	A0011005-05B	Prep Date:	11/3/00							
Matrix:	Aqueous	Analysis Date:	11/6/00 9:54:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110626.D							
Prep Batch Number:	A001106004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.11		mg/L	0.10	0.031				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.042		mg/L	0.0051	0.0010	0.051	82.2	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MP017Q04	Collection Date:	10/31/00							
Lab Sample Number:	A0011005-06B	Prep Date:	11/3/00							
Matrix:	Aqueous	Analysis Date:	11/6/00 10:21:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110627.D							
Prep Batch Number:	A001106004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.19		mg/L	0.10	0.031				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.046		mg/L	0.0052	0.0010	0.052	90.1	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP024Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-07B		Prep Date:	11/3/00						
Matrix:	Aqueous		Analysis Date:	11/6/00 10:48:00PM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:	W0110628.D						
Prep Batch Number:	A001106004		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Diesel Range Organics	n/a	7.7		mg/L	0.10	0.031				
Surrogate Results:										
o-Terphenyl	84-15-1	0.039		mg/L	0.0052	0.0010	0.052	75.4	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MP014Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-08B		Prep Date:	11/3/00						
Matrix:	Aqueous		Analysis Date:	11/7/00 11:19:00AM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:	W0110707.D						
Prep Batch Number:	A001106004		Dilution Factor:	5						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Diesel Range Organics	n/a	25		mg/L	0.54	0.16				
Surrogate Results:										
o-Terphenyl	84-15-1	0.044		mg/L	0.027	0.0054	0.054	81.5	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP016Q04	Collection Date:	10/31/00							
Lab Sample Number:	A0011005-09B	Prep Date:	11/3/00							
Matrix:	Aqueous	Analysis Date:	11/6/00 11:43:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110630.D							
Prep Batch Number:	A001106004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.21		mg/L	0.10	0.031				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.041		mg/L	0.0052	0.0010	0.052	79.4	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MW041Q04	Collection Date:	10/31/00							
Lab Sample Number:	A0011005-10B	Prep Date:	11/3/00							
Matrix:	Aqueous	Analysis Date:	11/7/00 12:10:00AM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110631.D							
Prep Batch Number:	A001106004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.11		mg/L	0.10	0.031				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.045		mg/L	0.0052	0.0010	0.052	85.8	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP003Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-11B		Prep Date:	11/3/00						
Matrix:	Aqueous		Analysis Date:	11/7/00 11:47:00AM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:	W0110708.D						
Prep Batch Number:	A001106004		Dilution Factor:	10						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	67		mg/L	1.1	0.32				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.049	J	mg/L	0.053	0.011	0.053	92.6	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP001Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-01A		Prep Date:	11/10/00						
Matrix:	Aqueous		Analysis Date:	11/10/00 11:58:00AM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111007.D						
Prep Batch Number:	A00111003		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	0.51	J	ug/L	1.0	0.21				
Gasoline Range Organics	n/a	32	J	ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	0.72	J	ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	1.9	J	ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	86		ug/L	1.0	0.10	100	85.9	60	120
Bromofluorobenzene	1072-85-1	100		ug/L	1.0	0.10	100	101.0	60	120
Difluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	97.2	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.7	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP006Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-02A		Prep Date:	11/10/00						
Matrix:	Aqueous		Analysis Date:	11/10/00 12:26:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111008.D						
Prep Batch Number:	A001110003		Dilution Factor:	50						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	200		ug/L	50	11				
Gasoline Range Organics	n/a	7,400		ug/L	5,000	530				
Toluene	108-88-3	ND		ug/L	50	18				
Ethylbenzene	100-41-4	200		ug/L	50	7.0				
Xylenes, Total	1330-20-7	630		ug/L	100	35				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	4,500		ug/L	50	5.0	5,000	89.0	60	120
Bromofluorobenzene	1072-85-1	5,600		ug/L	50	5.0	5,000	111.3	60	120
Difluorobenzene(PID)	540-36-3	2,500		ug/L	50	5.0	2,500	98.6	60	120
Difluorobenzene	540-36-3	2,500		ug/L	50	5.0	2,500	98.5	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP018Q04	Collection Date:	10/31/00
Lab Sample Number:	A0011005-03A	Prep Date:	11/10/00
Matrix:	Aqueous	Analysis Date:	11/10/00 12:54:00PM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111009.D
Prep Batch Number:	A001110003	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	47	J	ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	0.31	J	ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	2.0	J	ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	85		ug/L	1.0	0.10	100	85.0	60	120
Bromofluorobenzene	1072-85-1	100		ug/L	1.0	0.10	100	102.8	60	120
Difluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	97.6	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	102.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP009Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-04A		Prep Date:	11/10/00						
Matrix:	Aqueous		Analysis Date:	11/10/00 1:22:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111010.D						
Prep Batch Number:	A001110003		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	86		ug/L	1.0	0.10	100	86.2	60	120
Bromofluorobenzene	1072-85-1	99		ug/L	1.0	0.10	100	98.6	60	120
Difluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	97.5	60	120
Difluorobenzene	540-36-3	50		ug/L	1.0	0.10	50	99.7	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP010Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-05A		Prep Date:	11/10/00						
Matrix:	Aqueous		Analysis Date:	11/10/00 1:50:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111011.D						
Prep Batch Number:	A001110003		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	88		ug/L	1.0	0.10	100	88.1	60	120
Bromofluorobenzene	1072-85-1	99		ug/L	1.0	0.10	100	98.9	60	120
Disfluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	98.8	60	120
Disfluorobenzene	540-36-3	50		ug/L	1.0	0.10	50	99.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP017Q04	Collection Date:	10/31/00
Lab Sample Number:	A0011005-06A	Prep Date:	11/10/00
Matrix:	Aqueous	Analysis Date:	11/10/00 2:19:00PM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111012.D
Prep Batch Number:	A001110003	Dilution Factor:	1
RR #:	1		

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	85		ug/L	1.0	0.10	100	85.2	60	120
Bromofluorobenzene	1072-85-1	97		ug/L	1.0	0.10	100	97.4	60	120
Difluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	97.9	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.8	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP024Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-07A		Prep Date:	11/10/00						
Matrix:	Aqueous		Analysis Date:	11/13/00 10:52:00AM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111307.D						
Prep Batch Number:	A001110003		Dilution Factor:	5						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	19		ug/L	5.0	1.1				
Gasoline Range Organics	n/a	2,000		ug/L	500	53				
Toluene	108-88-3	4.2	J	ug/L	5.0	1.8				
Ethylbenzene	100-41-4	160		ug/L	5.0	0.70				
Xylenes, Total	1330-20-7	510		ug/L	10	3.5				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	430		ug/L	5.0	0.50	500	85.0	60	120
Bromofluorobenzene	1072-85-1	510		ug/L	5.0	0.50	500	101.7	60	120
Difluorobenzene(PID)	540-36-3	250		ug/L	5.0	0.50	250	99.0	60	120
Difluorobenzene	540-36-3	250		ug/L	5.0	0.50	250	99.1	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP014Q04	Collection Date:	10/31/00
Lab Sample Number:	A0011005-08A	Prep Date:	11/10/00
Matrix:	Aqueous	Analysis Date:	11/13/00 11:21:00AM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111308.D
Prep Batch Number:	A001110003	Dilution Factor:	10
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	120		ug/L	10	2.1				
Gasoline Range Organics	n/a	7,400		ug/L	1,000	110				
Tohuene	108-88-3	62		ug/L	10	3.6				
Ethylbenzene	100-41-4	250		ug/L	10	1.4				
Xylenes, Total	1330-20-7	1,700		ug/L	20	7.0				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	960		ug/L	10	1.0	1,200	79.8	60	120
Bromofluorobenzene	1072-85-1	1,000		ug/L	10	1.0	1,000	104.5	60	120
Difluorobenzene(PID)	540-36-3	510		ug/L	10	1.0	500	101.3	60	120
Difluorobenzene	540-36-3	480		ug/L	10	1.0	500	96.5	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP016Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-09A		Prep Date:	11/10/00						
Matrix:	Aqueous		Analysis Date:	11/13/00 11:51:00AM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111309.D						
Prep Batch Number:	A001110003		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	62	J	ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	85		ug/L	1.0	0.10	100	85.4	60	120
Bromofluorobenzene	1072-85-1	100		ug/L	1.0	0.10	100	99.9	60	120
Disfluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	97.1	60	120
Disfluorobenzene	540-36-3	50		ug/L	1.0	0.10	50	100.8	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW041Q04		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-10A		Prep Date:	11/10/00						
Matrix:	Aqueous		Analysis Date:	11/13/00 12:19:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111310.D						
Prep Batch Number:	A001110003		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	84		ug/L	1.0	0.10	100	83.7	60	120
Bromofluorobenzene	1072-85-1	95		ug/L	1.0	0.10	100	95.2	60	120
Difluorobenzene(PID)	540-36-3	48		ug/L	1.0	0.10	50	96.7	60	120
Difluorobenzene	540-36-3	50		ug/L	1.0	0.10	50	99.9	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP003Q04	Collection Date:	10/31/00
Lab Sample Number:	A0011005-11A	Prep Date:	11/10/00
Matrix:	Aqueous	Analysis Date:	11/13/00 12:47:00PM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111311.D
Prep Batch Number:	A001110003	Dilution Factor:	20
RR #:	1		

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>
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Analyte Results:

Benzene	71-43-2	250		ug/L	20	4.2				
Gasoline Range Organics	n/a	5,700		ug/L	2,000	210				
Toluene	108-88-3	34		ug/L	20	7.2				
Ethylbenzene	100-41-4	14	J	ug/L	20	2.8				
Xylenes, Total	1330-20-7	1,100		ug/L	40	14				

Surrogate Results:

Bromofluorobenzene(PID)	1072-85-1	1,800		ug/L	20	2.0	2,000	88.9	60	120
Bromofluorobenzene	1072-85-1	2,100		ug/L	20	2.0	2,000	106.6	60	120
Difluorobenzene(PID)	540-36-3	1,000		ug/L	20	2.0	1,000	100.7	60	120
Difluorobenzene	540-36-3	980		ug/L	20	2.0	1,000	97.8	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	Trip Blank		Collection Date:	10/31/00						
Lab Sample Number:	A0011005-12A		Prep Date:	11/10/00						
Matrix:	Aqueous		Analysis Date:	11/13/00 1:15:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111312.D						
Prep Batch Number:	A001110003		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	83		ug/L	1.0	0.10	100	83.5	60	120
Bromofluorobenzene	1072-85-1	95		ug/L	1.0	0.10	100	95.1	60	120
Difluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	97.4	60	120
Difluorobenzene	540-36-3	50		ug/L	1.0	0.10	50	100.3	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Method Blank Report

Client Sample Name:	MB	Collection Date:	11/3/00							
Lab Sample Number:	A001106004-MB	Prep Date:	11/3/00							
Matrix:	Aqueous	Analysis Date:	11/6/00 4:55:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110615.D							
Prep Batch Number:	A001106004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	ND		mg/L	0.10	0.030				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.042		mg/L	0.0050	0.0010	0.050	84.3	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Method Blank Report

Client Sample Name:	MB	Collection Date:	11/10/00							
Lab Sample Number:	A001110003-MB	Prep Date:	11/10/00							
Matrix:	Aqueous	Analysis Date:	11/10/00 10:26:00AM							
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha							
Prep Method ID:	5030	File Name:	N0111004.D							
Prep Batch Number:	A001110003	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	90		ug/L	1.0	0.10	100	89.9	60	120
Bromofluorobenzene	1072-85-1	99		ug/L	1.0	0.10	100	98.8	60	120
Difluorobenzene(PID)	540-36-3	50		ug/L	1.0	0.10	50	99.1	60	120
Difluorobenzene	540-36-3	49		ug/L	1.0	0.10	50	97.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCS Report

Client Sample Name:	LCS	Collection Date:	11/3/00							
Lab Sample Number:	A001106004-LCS	Prep Date:	11/3/00							
Matrix:	Aqueous	Analysis Date:	11/6/00 5:22:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110616.D							
Prep Batch Number:	A001106004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	1.6		mg/L	0.10	0.030	2.0		60	120
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.058		mg/L	0.0050	0.0010	0.050	115.1	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCS Report

Client Sample Name:	LCS	Collection Date:	11/10/00							
Lab Sample Number:	A001110003-LCS	Prep Date:	11/10/00							
Matrix:	Aqueous	Analysis Date:	11/10/00 10:54:00AM							
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha							
Prep Method ID:	5030	File Name:	N0111005.D							
Prep Batch Number:	A001110003	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	15		ug/L	1.0	0.21	14		60	120
Gasoline Range Organics	n/a	1,200		ug/L	100	11	1,100		75	125
Toluene	108-88-3	82		ug/L	1.0	0.36	85		60	120
Ethylbenzene	100-41-4	22		ug/L	1.0	0.14	20		60	120
Xylenes, Total	1330-20-7	100		ug/L	2.0	0.70	99		60	120
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	94		ug/L	1.0	0.10	100	93.5	60	120
Bromofluorobenzene	1072-85-1	110		ug/L	1.0	0.10	100	110.2	60	120
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	105.5	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.7	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCSD Report

Client Sample Name:	LCSD	Collection Date:	11/3/00							
Lab Sample Number:	A001106004-LCSD	Prep Date:	11/3/00							
Matrix:	Aqueous	Analysis Date:	11/6/00 5:49:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110617.D							
Prep Batch Number:	A001106004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	1.7		mg/L	0.10	0.030	2.0		60	120
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.058		mg/L	0.0050	0.0010	0.050	115.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCSD Report

Client Sample Name:	LCSD	Collection Date:	11/10/00
Lab Sample Number:	A001110003-LCSD	Prep Date:	11/10/00
Matrix:	Aqueous	Analysis Date:	11/10/00 11:22:00AM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111006.D
Prep Batch Number:	A001110003	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	14		ug/L	1.0	0.21	14		60	120
Gasoline Range Organics	n/a	1,200		ug/L	100	11	1,100		75	125
Toluene	108-88-3	80		ug/L	1.0	0.36	85		60	120
Ethylbenzene	100-41-4	22		ug/L	1.0	0.14	20		60	120
Xylenes, Total	1330-20-7	99		ug/L	2.0	0.70	99		60	120
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	90		ug/L	1.0	0.10	100	89.9	60	120
Bromofluorobenzene	1072-85-1	110		ug/L	1.0	0.10	100	114.1	60	120
Difluorobenzene(PID)	540-36-3	51		ug/L	1.0	0.10	50	102.7	60	120
Difluorobenzene	540-36-3	53		ug/L	1.0	0.10	50	105.2	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC Recovery Report

Work Order:A0011005

Prep Batch Number: A001106004

Base Sample A001106004-MB Anal. Method: DRO by AK 102
Spike Sample A001106004-LCS Sample Prep Date: 11/3/00 12:00:00AM
Spike Duplicate: A001106004-LCSD Analysis Units: mg/L
Matrix: Aqueous

LCS/LCSD Report

Analyte	Samp. Result	Spike Result	Sp. Dup Result	Spike Conc	Spike Recov	Spike Dup Conc	SpikeD Recov	RPD	LCL	UCL	RPD Lim.	Recov. Flag	RPD Flag
<u>Analytes</u> Diesel Range Organics	ND	1.6	1.7	2.0	80.9	2.0	81.8	1.1	60	120	20		
<u>Surrogates:</u> o-Terphenyl	0.042	0.058	0.058	0.050	116.0	0.050	116.0	0.0	60	120	20		

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC Recovery Report

Work Order: A0011005

Prep Batch Number: A001110003

Base Sample	A001110003-MB	Anal. Method:	GRO/BTEX by AK101/SW-8021B
Spike Sample	A001110003-LCS	Sample Prep Date:	11/10/00 12:00:00AM
Spike Duplicate:	A001110003-LCSD	Analysis Units:	ug/L

LCS/LCSD Report

Analyte	Samp. Result	Spike Result	Sp. Dup. Result	Spike Conc	Spike Recov	Spike Dup Conc	SpikeD Recov	RPD	LCL	UCL	RPD Lim.	Recov. Flag	RPD Flag
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<u>Analytes</u>													
Benzene	ND	15	14	14	106.9	14	101.2	5.5	60	120	20		
Toluene	ND	82	80	85	97.0	85	94.2	2.9	60	120	20		
Ethylbenzene	ND	22	22	20	108.0	20	105.4	2.4	60	120	20		
Xylenes, Total	ND	100	99	99	101.6	99	98.6	3.1	60	120	20		
Gasoline Range Organics	ND	1,200	1,200	1,100	103.5	1,100	110.5	6.6	75	125	20		

<u>Surrogates:</u>													
Difluorobenzene(PID)	50	53	51	50	106.0	50	102.0	3.8	60	120	20		
Bromofluorobenzene(PID)	90	94	90	100	94.0	100	90.0	4.3	60	120	20		
Bromofluorobenzene	99	110	110	100	110.0	100	110.0	0.0	60	120	20		
Difluorobenzene	49	51	53	50	102.0	50	106.0	3.8	60	120	20		

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID:	1,102	Lab Project Number:	A0011005	Prep Date:
Test:	DRO by AK 102			11/3/00
Lab Method Blank Id:	A001106004-MB			
Prep Batch ID:	A001106004			
Method:	DRO by AK 102			
This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:				
SampleNum	ClientSampleName	DataFile	AnalysisDate	
A0011005-02B	TAL00MP006Q04	W0110616.D	11/27/00 2:27:00PM	
A001106004-LCS	LCS	W0110617.D	11/6/00 5:22:00PM	
A001106004-LCSD	LCSD	W0110621.D	11/6/00 5:49:00PM	
A0011005-01B	TAL00MP001Q04	W0110623.D	11/6/00 7:38:00PM	
A0011005-03B	TAL00MP018Q04	W0110624.D	11/6/00 8:32:00PM	
A0011005-04B	TAL00MP009Q04	W0110626.D	11/6/00 8:59:00PM	
A0011005-05B	TAL00MP010Q04	W0110627.D	11/6/00 9:54:00PM	
A0011005-06B	TAL00MP017Q04	W0110628.D	11/6/00 10:21:00PM	
A0011005-07B	TAL00MP024Q04	W0110630.D	11/6/00 10:48:00PM	
A0011005-09B	TAL00MP016Q04	W0110631.D	11/7/00 11:43:00PM	
A0011005-10B	TAL00MW041Q04	W0110706.D	11/7/00 12:10:00AM	
A0011005-01B	TAL00MP001Q04	W0110707.D	11/7/00 10:52:00AM	
A0011005-08B	TAL00MP014Q04	W0110708.D	11/7/00 11:19:00AM	
A0011005-11B	TAL00MP003Q04		11/7/00 11:47:00AM	

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 1,102 Lab Project Number: A0011005

Test: GRO/BTEX by AK101/SW-8021B Prep Date: 11/10/00

Lab Method Blank Id: A001110003-MB

Prep Batch ID: A001110003

Method: GRO/BTEX by AK101/SW-8021B

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A001110003-LCS	LCS	N0111005.D	11/10/00 10:54:00AM
A001110003-LCSD	LCSD	N0111006.D	11/10/00 11:22:00AM
A0011005-01A	TAL00MP001Q04	N0111007.D	11/10/00 11:58:00AM
A0011005-02A	TAL00MP006Q04	N0111008.D	11/10/00 12:26:00PM
A0011005-03A	TAL00MP018Q04	N0111009.D	11/10/00 12:54:00PM
A0011005-04A	TAL00MP009Q04	N0111010.D	11/10/00 1:22:00PM
A0011005-05A	TAL00MP010Q04	N0111011.D	11/10/00 1:50:00PM
A0011005-06A	TAL00MP017Q04	N0111012.D	11/10/00 2:19:00PM
A0011005-07A	TAL00MP024Q04	N0111307.D	11/13/00 10:52:00AM
A0011005-08A	TAL00MP014Q04	N0111308.D	11/13/00 11:21:00AM
A0011005-09A	TAL00MP016Q04	N0111309.D	11/13/00 11:51:00AM
A0011005-10A	TAL00MW041Q04	N0111310.D	11/13/00 12:19:00PM
A0011005-11A	TAL00MP003Q04	N0111311.D	11/13/00 12:47:00PM
A0011005-12A	Trip Blank	N0111312.D	11/13/00 1:15:00PM

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011005

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

DATA FLAGS AND DEFINITIONS

Result Field:

ND = Not Detected at or above the Reporting Limit Shown
NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Low Control Limit
HIGH = Recovery , RPD, or other parameter is above Upper Control Limit
E = Reported concentration is above the instrument calibration upper range
DIL = Sample required dilution to bring analytes within calibration range of the instrument.
At the dilution level required, the surrogate could not be quantified due to the resulting low surrogate concentration and/or coelution interference from the sample.

Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank
J = Analyte was detected above 2 x MDL but below the Reporting Limit (Quant Limit)

Inorganic Analysis Flags:

B = Analyte was detected above the MDL or IDL but below the Reporting Limit
W = Post digestion spike did not meet criteria
S = Reported value determined by the Method of Standard Additions (MSA)





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CH2M Hill of Alaska
301 W. Northern Lights Blvd.
Suite 601
Anchorage, AK 99503
Attn: Win Westervelt

RECEIVED BY
CH2M HILL AL
NOV 30 2000

Work Order #: A0011012
Date: 11/22/00
Work ID: FAA Tanana GWM
Date Received: 11/3/00

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
A0011012-01	TAL00MW012Q04	A0011012-02	TAL00MW013Q04
A0011012-03	TAL00MW015Q04	A0011012-04	TAL00MW019Q04
A0011012-05	TAL00MP008Q04	A0011012-06	TAL00MP012Q04
A0011012-07	TAL00MP015Q04	A0011012-08	TAL00MP023Q04
A0011012-09	TAL00MP025Q04	A0011012-10	TAL00MP028Q04
A0011012-11	TAL00MP029Q04	A0011012-12	Trip Blank

Enclosed are the analytical results for the submitted sample(s). Please review the CASE NARRATIVE for a discussion of any data and/or quality control issues. Listings of data qualifiers, analytical codes, key dates, and QC relationships are provided at the end of the report.

Sincerely,

Jason Gray
Project Manager

Case Narrative

Work Order: A0011012

ADEC Laboratory Approval Number: UST-014

The samples were received properly packed in one cooler at 3.6°C and were refrigerated upon receipt.

QUALITY CONTROL

All quality control objectives were met for this project with the following explanations:

HOLDING TIMES

All samples were analyzed within the test method prescribed holding time.

INITIAL CALIBRATION

All samples met the test method acceptance criteria.

CONTINUING CALIBRATION

All samples met the test method acceptance criteria.

METHOD BLANKS

No sought for analytes were found in the method blanks at levels above the PQL. In the AK102 soil extraction batch A001107008, DRO was detected in the method blank at levels below the PQL but above 2x the MDL. ADEC methodology for this analysis specifies only that the method blank must be below the PQL.

QC SPIKE SAMPLES

All LCS/LCSD samples met the test method acceptance criteria.

MS/MSD

No MS/MSD samples were requested or analyzed.

SURROGATE RECOVERIES

All surrogate recovery were within the test method acceptance criteria.

COMPLETENESS

The results associated with this project are 100 percent useable.

Analyst _____

Date 11/21/00

Analyst _____

Date 11/21/00

Summary Tabular Analytical Report

Analytica Alaska Inc.
Work Order: A001012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Analytical Method: DRO by AK 102
Sample Prep Method: 3510C

ID	Client Sample Name	UNITS: mg/L	Diesel Range Organics
J1B	TAL00MW012Q04		ND(0.11)
J2B	TAL00MW013Q04		0.18(0.11)
J3B	TAL00MW015Q04		3.8(0.10)
J4B	TAL00MW019Q04		0.11(0.11)
J5B	TAL00MP008Q04		3.9(0.10)
J6B	TAL00MP012Q04		89(1.1)
J7B	TAL00MP015Q04		ND(0.11)
J8B	TAL00MP023Q04		ND(0.10)
J9B	TAL00MP025Q04		11(1.0)
J10B	TAL00MP028Q04		3.7(0.11)
J11B	TAL00MP029Q04		2.9(0.11)

Summary Tabular Analytical Report

Analytica Alaska Inc.
Work Order: A0011012

Client: FAA Tanana GWM
Plant: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM
Sample Prep Method: 5030B

Analytical Method: BTX/GAS Water (8021)
Sample

UNITS: ug/L

	Client Sample Name	Benzene	Toluene	Ethyl Benzene	Xylenes	Gasoline Range Organics
A	TAL00MW012Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
A	TAL00MW013Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
A	TAL00MW015Q04	3.4(1.0)	ND(1.0)	3.5(1.0)	5.7(2.0)	ND(100)
A	TAL00MW019Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
A	TAL00MF008Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
A	TAL00MF012Q04	ND(5.0)	ND(5.0)	9.4(5.0)	60(10)	980(500)
A	TAL00MF015Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
A	TAL00MF023Q04	ND(1.0)	ND(1.0)	ND(1.0)	2.2(2.0)	ND(100)
A	TAL00MF025Q04	ND(1.0)	ND(1.0)	11(1.0)	18(2.0)	720(100)
A	TAL00MF028Q04	ND(1.0)	ND(1.0)	12(1.0)	18(2.0)	330(100)
A	TAL00MF029Q04	ND(1.0)	ND(1.0)	4.5(1.0)	17(2.0)	500(100)
A	Trip Blank	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW012Q04	Collection Date:	11/1/00							
Lab Sample Number:	A0011012-01B	Prep Date:	11/7/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 8:07:40PM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110887.D							
Prep Batch Number:	A001107008	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	0.10	J	mg/L	0.11	0.033				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.041		mg/L	0.0054	0.0011	0.054	74.7	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MW013Q04	Collection Date:	11/1/00							
Lab Sample Number:	A0011012-02B	Prep Date:	11/7/00							
Matrix:	Aqueous	Analysis Date:	11/9/00 10:59:44AM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110958.D							
Prep Batch Number:	A001107008	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	0.18		mg/L	0.11	0.032				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.048		mg/L	0.0053	0.0011	0.053	91.0	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW015Q04		Collection Date:	11/1/00						
Lab Sample Number:	A0011012-03B		Prep Date:	11/7/00						
Matrix:	Aqueous		Analysis Date:	11/9/00 11:17:22AM						
Analytical Method ID:	DRO by AK 102		Instrument:	Roo						
Prep Method ID:	3510		File Name:	R0110959.D						
Prep Batch Number:	A001107008		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	3.8		mg/L	0.10	0.031				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.047		mg/L	0.0052	0.0010	0.052	91.2	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MW019Q04		Collection Date:	11/1/00						
Lab Sample Number:	A0011012-04B		Prep Date:	11/7/00						
Matrix:	Aqueous		Analysis Date:	11/8/00 9:34:14PM						
Analytical Method ID:	DRO by AK 102		Instrument:	Roo						
Prep Method ID:	3510		File Name:	R0110892.D						
Prep Batch Number:	A001107008		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.11		mg/L	0.11	0.032				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.037		mg/L	0.0053	0.0011	0.053	69.6	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP008Q04		Collection Date:	11/1/00						
Lab Sample Number:	A0011012-05B		Prep Date:	11/7/00						
Matrix:	Aqueous		Analysis Date:	11/8/00 9:52:31PM						
Analytical Method ID:	DRO by AK 102		Instrument:	Roo						
Prep Method ID:	3510		File Name:	R0110893.D						
Prep Batch Number:	A001107008		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	3.9		mg/L	0.10	0.031				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.042	J	mg/L	0.0052	0.0010	0.052	81.3	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MP012Q04		Collection Date:	11/1/00						
Lab Sample Number:	A0011012-06B		Prep Date:	11/7/00						
Matrix:	Aqueous		Analysis Date:	11/8/00 10:09:36PM						
Analytical Method ID:	DRO by AK 102		Instrument:	Roo						
Prep Method ID:	3510		File Name:	R0110894.D						
Prep Batch Number:	A001107008		Dilution Factor:	10						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	89		mg/L	1.1	0.32				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.042	J	mg/L	0.053	0.011	0.053	80.4	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP015Q04	Collection Date:	11/1/00							
Lab Sample Number:	A0011012-07B	Prep Date:	11/7/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 10:26:44PM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110895.D							
Prep Batch Number:	A001107008	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.077	J	mg/L	0.11	0.032				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.043		mg/L	0.0053	0.0011	0.053	80.0	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MP023Q04	Collection Date:	11/1/00							
Lab Sample Number:	A0011012-08B	Prep Date:	11/7/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 10:43:38PM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110896.D							
Prep Batch Number:	A001107008	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.097	J	mg/L	0.10	0.031				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.044		mg/L	0.0052	0.0010	0.052	84.9	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP025Q04	Collection Date:	11/1/00							
Lab Sample Number:	A0011012-09B	Prep Date:	11/7/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 11:00:53PM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110897.D							
Prep Batch Number:	A001107008	Dilution Factor:	10							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	11		mg/L	1.0	0.31				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.045	J	mg/L	0.052	0.010	0.052	88.0	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MP028Q04	Collection Date:	11/1/00							
Lab Sample Number:	A0011012-10B	Prep Date:	11/7/00							
Matrix:	Aqueous	Analysis Date:	11/9/00 11:34:27AM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110960.D							
Prep Batch Number:	A001107008	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	3.7		mg/L	0.11	0.033				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.052		mg/L	0.0054	0.0011	0.054	96.0	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP029Q04	Collection Date:	11/1/00							
Lab Sample Number:	A0011012-11B	Prep Date:	11/7/00							
Matrix:	Aqueous	Analysis Date:	11/9/00 11:51:26AM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110961.D							
Prep Batch Number:	A001107008	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	POL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	2.9		mg/L	0.11	0.033				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.044		mg/L	0.0056	0.0011	0.056	79.4	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW012Q04		Collection Date:	11/1/00						
Lab Sample Number:	A0011012-01A		Prep Date:	11/13/00						
Matrix:	Aqueous		Analysis Date:	11/14/00 9:54:00AM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111407.D						
Prep Batch Number:	A001113002		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
Surrogate Results:										
Bromofluorobenzene(PID)	1072-85-1	84		ug/L	1.0	0.10	100	83.6	60	120
Bromofluorobenzene	1072-85-1	96		ug/L	1.0	0.10	100	96.0	60	120
Disfluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	97.6	60	120
Disfluorobenzene	540-36-3	50		ug/L	1.0	0.10	50	100.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW013Q04	Collection Date:	11/1/00
Lab Sample Number:	A0011012-02A	Prep Date:	11/13/00
Matrix:	Aqueous	Analysis Date:	11/14/00 10:22:00AM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111408.D
Prep Batch Number:	A001113002	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	86		ug/L	1.0	0.10	100	86.3	60	120
Bromofluorobenzene	1072-85-1	94		ug/L	1.0	0.10	100	93.8	60	120
Difluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	99.0	60	120
Difluorobenzene	540-36-3	49		ug/L	1.0	0.10	50	97.6	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW015Q04	Collection Date:	11/1/00
Lab Sample Number:	A0011012-03A	Prep Date:	11/13/00
Matrix:	Aqueous	Analysis Date:	11/14/00 10:50:00AM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111409.D
Prep Batch Number:	A001113002	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	3.4		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	85	J	ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	3.5		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	5.7		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	86		ug/L	1.0	0.10	100	85.6	60	120
Bromofluorobenzene	1072-85-1	96		ug/L	1.0	0.10	100	95.9	60	120
Difluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	98.1	60	120
Difluorobenzene	540-36-3	50		ug/L	1.0	0.10	50	99.9	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW019Q04	Collection Date:	11/1/00
Lab Sample Number:	A0011012-04A	Prep Date:	11/13/00
Matrix:	Aqueous	Analysis Date:	11/14/00 11:18:00AM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111410.D
Prep Batch Number:	A001113002	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	90		ug/L	1.0	0.10	100	90.5	60	120
Bromofluorobenzene	1072-85-1	94		ug/L	1.0	0.10	100	93.9	60	120
Difluorobenzene(PID)	540-36-3	51		ug/L	1.0	0.10	50	101.4	60	120
Difluorobenzene	540-36-3	47		ug/L	1.0	0.10	50	94.7	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP008Q04		Collection Date:	11/1/00						
Lab Sample Number:	A0011012-05A		Prep Date:	11/13/00						
Matrix:	Aqueous		Analysis Date:	11/14/00 12:16:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111411.D						
Prep Batch Number:	A001113002		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	POL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	83		ug/L	1.0	0.10	100	83.2	60	120
Bromofluorobenzene	1072-85-1	95		ug/L	1.0	0.10	100	94.6	60	120
Difluorobenzene(PID)	540-36-3	48		ug/L	1.0	0.10	50	96.3	60	120
Difluorobenzene	540-36-3	48		ug/L	1.0	0.10	50	96.5	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP012Q04			Collection Date:	11/1/00					
Lab Sample Number:	A0011012-06A			Prep Date:	11/13/00					
Matrix:	Aqueous			Analysis Date:	11/14/00 12:45:00PM					
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B			Instrument:	Natasha					
Prep Method ID:	5030			File Name:	N0111412.D					
Prep Batch Number:	A001113002			Dilution Factor:	5					
RR #:	1									
Analyst	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	ND		ug/L	5.0	1.1				
Gasoline Range Organics	n/a	980		ug/L	500	53				
Toluene	108-88-3	ND		ug/L	5.0	1.8				
Ethylbenzene	100-41-4	9.4		ug/L	5.0	0.70				
Xylenes, Total	1330-20-7	60		ug/L	10	3.5				
Surrogate Results:										
Bromofluorobenzene(PID)	1072-85-1	480		ug/L	5.0	0.50	500	95.1	60	120
Bromofluorobenzene	1072-85-1	520		ug/L	5.0	0.50	500	103.3	60	120
Difluorobenzene(PID)	540-36-3	250		ug/L	5.0	0.50	250	98.1	60	120
Difluorobenzene	540-36-3	250		ug/L	5.0	0.50	250	98.3	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP015Q04	Collection Date:	11/1/00
Lab Sample Number:	A0011012-07A	Prep Date:	11/13/00
Matrix:	Aqueous	Analysis Date:	11/14/00 1:13:00PM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111413.D
Prep Batch Number:	A001113002	Dilution Factor:	1
RR #:	1		

Analyte	CAS#	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	84		ug/L	1.0	0.10	100	84.5	60	120
Bromofluorobenzene	1072-85-1	98		ug/L	1.0	0.10	100	98.4	60	120
Disfluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	98.0	60	120
Disfluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.8	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP023Q04		Collection Date:	11/1/00						
Lab Sample Number:	A0011012-08A		Prep Date:	11/13/00						
Matrix:	Aqueous		Analysis Date:	11/14/00 2:39:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111416.D						
Prep Batch Number:	A001113002		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	22	J	ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	0.37	J	ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	2.2		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	85		ug/L	1.0	0.10	100	85.5	60	120
Bromofluorobenzene	1072-85-1	96		ug/L	1.0	0.10	100	96.3	60	120
Difluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	98.2	60	120
Difluorobenzene	540-36-3	50		ug/L	1.0	0.10	50	99.1	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP025Q04		Collection Date:	11/1/00						
Lab Sample Number:	A0011012-09A		Prep Date:	11/13/00						
Matrix:	Aqueous		Analysis Date:	11/14/00 3:07:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111417.D						
Prep Batch Number:	A001113002		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	0.58	J	ug/L	1.0	0.21				
Gasoline Range Organics	n/a	720		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	11		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	18		ug/L	2.0	0.70				
Surrogate Results:										
Bromofluorobenzene(PID)	1072-85-1	110		ug/L	1.0	0.10	100	107.7	60	120
Bromofluorobenzene	1072-85-1	110		ug/L	1.0	0.10	100	109.6	60	120
Difluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	97.7	60	120
Difluorobenzene	540-36-3	53		ug/L	1.0	0.10	50	106.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP028Q04	Collection Date:	11/1/00
Lab Sample Number:	A0011012-10A	Prep Date:	11/13/00
Matrix:	Aqueous	Analysis Date:	11/14/00 3:35:00PM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111418.D
Prep Batch Number:	A001113002	Dilution Factor:	1
RR #:	1		

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>POL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>
<u>Analyte Results:</u>										
Benzene	71-43-2	0.52	J	ug/L	1.0	0.21				
Gasoline Range Organics	n/a	330		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	12		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	18		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	95		ug/L	1.0	0.10	100	95.5	60	120
Bromofluorobenzene	1072-85-1	110		ug/L	1.0	0.10	100	107.1	60	120
Difluorobenzene(PID)	540-36-3	48		ug/L	1.0	0.10	50	96.7	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.1	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MP029Q04		Collection Date:	11/1/00						
Lab Sample Number:	A0011012-11A		Prep Date:	11/13/00						
Matrix:	Aqueous		Analysis Date:	11/14/00 4:03:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Natasha						
Prep Method ID:	5030		File Name:	N0111419.D						
Prep Batch Number:	A001113002		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	500		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	4.5		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	17		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	110		ug/L	1.0	0.10	100	106.4	60	120
Bromofluorobenzene	1072-85-1	110		ug/L	1.0	0.10	100	108.6	60	120
Difluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	51	96.5	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.1	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	Trip Blank	Collection Date:	11/1/00
Lab Sample Number:	A0011012-12A	Prep Date:	11/13/00
Matrix:	Aqueous	Analysis Date:	11/14/00 4:31:00PM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111420.D
Prep Batch Number:	A001113002	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	POL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	0.33	J	ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	85		ug/L	1.0	0.10	100	84.7	60	120
Bromofluorobenzene	1072-85-1	95		ug/L	1.0	0.10	100	94.9	60	120
Difluorobenzene(PID)	540-36-3	49		ug/L	1.0	0.10	50	97.2	60	120
Difluorobenzene	540-36-3	49		ug/L	1.0	0.10	50	98.5	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Method Blank Report

Client Sample Name:	MB	Collection Date:	11/7/00							
Lab Sample Number:	A001107008-MB	Prep Date:	11/7/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 3:03:03PM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110871.D							
Prep Batch Number:	A001107008	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.068	J	mg/L	0.10	0.030				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.046		mg/L	0.0050	0.0010	0.050	92.0	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Method Blank Report

Client Sample Name:	MB	Collection Date:	11/13/00
Lab Sample Number:	A001113002-MB	Prep Date:	11/13/00
Matrix:	Aqueous	Analysis Date:	11/13/00 9:28:00AM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111304.D
Prep Batch Number:	A001113002	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	92		ug/L	1.0	0.10	100	92.3	60	120
Bromofluorobenzene	1072-85-1	100		ug/L	1.0	0.10	100	100.1	60	120
Difluorobenzene(PID)	540-36-3	50		ug/L	1.0	0.10	50	99.2	60	120
Difluorobenzene	540-36-3	48		ug/L	1.0	0.10	50	95.6	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCS Report

Client Sample Name:	LCS	Collection Date:	11/7/00							
Lab Sample Number:	A001107008-LCS	Prep Date:	11/7/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 3:20:32PM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110872.D							
Prep Batch Number:	A001107008	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	1.4		mg/L	0.10	0.030	2.0		60	120
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.044		mg/L	0.0050	0.0010	0.050	87.3	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCS Report

Client Sample Name:	LCS	Collection Date:	11/13/00
Lab Sample Number:	A001113002-LCS	Prep Date:	11/13/00
Matrix:	Aqueous	Analysis Date:	11/13/00 9:56:00AM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111305.D
Prep Batch Number:	A001113002	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	15		ug/L	1.0	0.21	14		60	120
Gasoline Range Organics	n/a	1,200		ug/L	100	11	1,100		75	125
Toluene	108-88-3	83		ug/L	1.0	0.36	85		60	120
Ethylbenzene	100-41-4	22		ug/L	1.0	0.14	20		60	120
Xylenes, Total	1330-20-7	100		ug/L	2.0	0.70	99		60	120
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	96		ug/L	1.0	0.10	100	96.0	60	120
Bromofluorobenzene	1072-85-1	97		ug/L	1.0	0.10	100	96.8	60	120
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	106.1	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.1	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCSD Report

Client Sample Name:	LCSD	Collection Date:	11/7/00							
Lab Sample Number:	A001107008-LCSD	Prep Date:	11/7/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 2:45:55PM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110873.D							
Prep Batch Number:	A001107008	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	1.5		mg/L	0.10	0.030	2.0		60	120
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.051		mg/L	0.0050	0.0010	0.050	102.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCSD Report

Client Sample Name:	LCSD	Collection Date:	11/13/00
Lab Sample Number:	A001113002-LCSD	Prep Date:	11/13/00
Matrix:	Aqueous	Analysis Date:	11/13/00 10:24:00AM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Natasha
Prep Method ID:	5030	File Name:	N0111306.D
Prep Batch Number:	A001113002	Dilution Factor:	1
RR #:	1		

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>
<u>Analyte Results:</u>										
Benzene	71-43-2	15		ug/L	1.0	0.21	14		60	120
Gasoline Range Organics	n/a	1,200		ug/L	100	11	1,100		75	125
Toluene	108-88-3	82		ug/L	1.0	0.36	85		60	120
Ethylbenzene	100-41-4	22		ug/L	1.0	0.14	20		60	120
Xylenes, Total	1330-20-7	100		ug/L	2.0	0.70	99		60	120
<u>Surrogate Results:</u>										
Bromofluorobenzene(PID)	1072-85-1	95		ug/L	1.0	0.10	100	95.0	60	120
Bromofluorobenzene	1072-85-1	99		ug/L	1.0	0.10	100	99.5	60	120
Difluorobenzene(PID)	540-36-3	52		ug/L	1.0	0.10	50	104.9	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	102.8	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC Recovery Report

Work Order:A0011012

Prep Batch Number: A001107008

Base Sample A001107008-MB Anal. Method: DRO by AK 102
Spike Sample A001107008-LCS Sample Prep Date: 11/7/00 12:00:00AM
Spike Duplicate: A001107008-LCSD Analysis Units: mg/L
Matrix: Aqueous

LCS/LCSD Report

Analyte	Samp. Result	Spike Result	Sp. Dup Result	Spike Conc	Spike Recov	Spike Dup Conc	Spiked Recov	RPD	LCL	UCL	RPD Lim.	Recov. Flag	RPD Flag
<u>Analytes</u>													
Diesel Range Organics	0.068	1.4	1.5	2.0	65.3	2.0	73.2	11.4	60	120	20		
<u>Surrogates:</u>													
o-Terphenyl	0.046	0.044	0.051	0.050	88.0	0.050	102.0	14.7	60	120	20		

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC Recovery Report

Work Order:A0011012

Prep Batch Number: A001113002

Base Sample A001113002-MB Anal. Method: GRO/BTEX by AK101/SW-8021B
Spike Sample A001113002-LCS Sample Prep Date: 11/13/00 12:00:00AM
Spike Duplicate: A001113002-LCSD Analysis Units: ug/L

LCS/LCSD Report

Matrix: Aqueous

Analyte	Samp. Result	Spike Result	Sp. Dup Result	Spike Conc	Spike Recov	Spike Dup Conc	SpikeD Recov	RPD	LCL	UCL	RPD Lim.	Recov. Flag	RPD Flag
<u>Analytes</u>													
Benzene	ND	15	15	14	107.3	14	106.1	1.1	60	120	20		
Toluene	ND	83	82	85	97.4	85	97.1	0.2	60	120	20		
Ethylbenzene	ND	22	22	20	108.2	20	108.4	0.2	60	120	20		
Xylenes, Total	ND	100	100	99	102.0	99	101.6	0.4	60	120	20		
Gasoline Range Organics	ND	1,200	1,200	1,100	103.5	1,100	109.1	5.3	75	125	20		
<u>Surrogates:</u>													
Difluorobenzene(PID)	50	53	52	50	106.0	50	104.0	1.9	60	120	20		
Bromofluorobenzene(PID)	92	96	95	100	96.0	100	95.0	1.0	60	120	20		
Bromofluorobenzene	100	97	99	100	97.0	100	99.0	2.0	60	120	20		
Difluorobenzene	48	51	51	50	102.0	50	102.0	0.0	60	120	20		

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 1,133 Lab Project Number: A0011012 Prep Date: 11/7/00

Test: DRO by AK 102

Lab Method Blank Id: A001107008-MB

Prep Batch ID: A001107008

Method: DRO by AK 102

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A001107008-LCS	LCS	R0110872.D	11/8/00 3:20:32PM
A001107008-LCSD	LCSD	R0110873.D	11/8/00 2:45:55PM
A0011012-01B	TAL00MW012Q04	R0110887.D	11/8/00 8:07:40PM
A0011012-04B	TAL00MW019Q04	R0110892.D	11/8/00 9:34:14PM
A0011012-05B	TAL00MP008Q04	R0110893.D	11/8/00 9:52:31PM
A0011012-06B	TAL00MP012Q04	R0110894.D	11/8/00 10:09:36PM
A0011012-07B	TAL00MP015Q04	R0110895.D	11/8/00 10:26:44PM
A0011012-08B	TAL00MP023Q04	R0110896.D	11/8/00 10:43:38PM
A0011012-09B	TAL00MP025Q04	R0110897.D	11/8/00 11:00:53PM
A0011012-02B	TAL00MW013Q04	R0110958.D	11/9/00 10:59:44AM
A0011012-03B	TAL00MW015Q04	R0110959.D	11/9/00 11:17:22AM
A0011012-10B	TAL00MP028Q04	R0110960.D	11/9/00 11:34:27AM
A0011012-11B	TAL00MP029Q04	R0110961.D	11/9/00 11:51:26AM

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 1,133 Lab Project Number: A0011012

Test: GRO/BTEX by AK101/SW-8021B Prep Date: 11/13/00

Lab Method Blank Id: A001113002-MB

Prep Batch ID: A001113002

Method: GRO/BTEX by AK101/SW-8021B

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A001113002-LCS	LCS	N0111305.D	11/13/00 9:56:00AM
A001113002-LCSD	LCSD	N0111306.D	11/13/00 10:24:00AM
A0011012-01A	TAL00MW012Q04	N0111407.D	11/14/00 9:54:00AM
A0011012-02A	TAL00MW013Q04	N0111408.D	11/14/00 10:22:00AM
A0011012-03A	TAL00MW015Q04	N0111409.D	11/14/00 10:50:00AM
A0011012-04A	TAL00MW019Q04	N0111410.D	11/14/00 11:18:00AM
A0011012-05A	TAL00MP008Q04	N0111411.D	11/14/00 12:16:00PM
A0011012-06A	TAL00MP012Q04	N0111412.D	11/14/00 12:45:00PM
A0011012-07A	TAL00MP015Q04	N0111413.D	11/14/00 1:13:00PM
A0011012-08A	TAL00MP023Q04	N0111416.D	11/14/00 2:39:00PM
A0011012-09A	TAL00MP025Q04	N0111417.D	11/14/00 3:07:00PM
A0011012-10A	TAL00MP028Q04	N0111418.D	11/14/00 3:35:00PM
A0011012-11A	TAL00MP029Q04	N0111419.D	11/14/00 4:03:00PM
A0011012-12A	Trip Blank	N0111420.D	11/14/00 4:31:00PM

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011012

Project: **FAA Tanana GWM**
Client: **CH2M Hill of Alaska**
Client Project Number: **FAA Tanana GWM**

DATA FLAGS AND DEFINITIONS

Result Field:

ND = Not Detected at or above the Reporting Limit Shown
NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Low Control Limit
HIGH = Recovery , RPD, or other parameter is above Upper Control Limit
E = Reported concentration is above the instrument calibration upper range
DIL = Sample required dilution to bring analytes within calibration range of the instrument.
• At the dilution level required, the surrogate could not be quantified due to the resulting low surrogate concentration and/or coelution interference from the sample.

Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank
J = Analyte was detected above 2 x MDL but below the Reporting Limit (Quant Limit)

Inorganic Analysis Flags:

B = Analyte was detected above the MDL or IDL but below the Reporting Limit
W = Post digestion spike did not meet criteria
S = Reported value determined by the Method of Standard Additions (MSA)





Analytica Alaska Incorporated
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CH2M Hill of Alaska
301 W. Northern Lights Blvd.
Suite 601
Anchorage, AK 99503
Attn: Win Westervelt

RECEIVED BY
CH2M HILL AK
NOV 30 2000

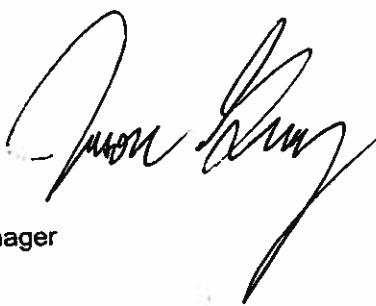
Work Order #: A0011015
Date: 11/27/00
Work ID: FAA Tanana GWM
Date Received: 11/4/00

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
A0011015-01	TAL00MW001Q04	A0011015-02	TAL00MW002Q04
A0011015-03	TAL00MW003Q04	A0011015-04	TAL00MW004Q04
A0011015-05	TAL00MW005Q04	A0011015-06	TAL00MW008Q04
A0011015-07	TAL00MW009Q04	A0011015-08	TAL00MW010Q04
A0011015-09	TAL00MW011Q04	A0011015-10	TAL00MW014Q04
A0011015-11	TAL00MW018Q04	A0011015-12	TAL00MW042Q04
A0011015-13	TAL00MW043Q04	A0011015-14	TAL00EB001Q04
A0011015-15	TAL00EB002Q04	A0011015-16	TAL00TB003Q04

Enclosed are the analytical results for the submitted sample(s). Please review the CASE NARRATIVE for a discussion on any data and/or quality control issues. Listings of data qualifiers, analytical codes, key dates, and QC relationships are provided at the end of the report.

Sincerely,


Jason Gray
Project Manager

Case Narrative

Analytica Alaska Inc.
Work Order: A0011015

ADEC Laboratory Approval Number: UST-014

Sixteen samples were received properly packed in two coolers at 2.8 °C and 2.3°C and were refrigerated upon receipt.

QUALITY CONTROL

All quality control objectives were met for this project.

HOLDING TIMES

All samples were analyzed within the test method prescribed holding time.

INITIAL CALIBRATION

All samples met the test method acceptance criteria.

CONTINUING CALIBRATION

All samples met the test method acceptance criteria.

METHOD BLANKS

No detectable quantities of sought for analytes were found in the blanks.

QC SPIKE SAMPLES

All LCS/LCSD samples met the test method acceptance criteria.

MS/MSD

All MS/MSD samples met the test method acceptance criteria.

SURROGATE RECOVERIES

All samples met the test method acceptance criteria.

COMPLETENESS

All of the results associated with this project are 100 percent useable.

Analyst _____

Karen E. Wetherby _____ Date 11/28/00

Analyst _____

John W. Wetherby _____ Date 11/28/00

Summary Tabular Analytical Report
Analytica Alaska Inc.
Work Order: A0011015

Project: FAA Tanana GWM

Client: CH2M Hill of Alaska

Client Project Number: FAA Tanana GWM

Analytical Method: BTX/GAS Water (8021)

Sample Prep Method: 5030B

UNITS: ug/L

ID	Client Sample Name	Benzene	Toluene	Ethyl Benzene	Xylenes	Gasoline Range Organics
01A	TAL00MW001Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
02A	TAL00MW002Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
03A	TAL00MW003Q04	2.6(1.0)	ND(1.0)	3.7(1.0)	6.5(2.0)	ND(100)
04A	TAL00MW004Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
05A	TAL00MW005Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
06A	TAL00MW008Q04	ND(1.0)	ND(1.0)	13(1.0)	30(2.0)	560(100)
07A	TAL00MW009Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
08A	TAL00MW010Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
09A	TAL00MW011Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
10A	TAL00MW014Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
11A	TAL00MW018Q04	4.5(1.0)	ND(1.0)	4.4(1.0)	9.0(2.0)	ND(100)
12A	TAL00MW042Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
13A	TAL00MW043Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
14A	TAL00EB001Q04	ND(1.0)	9.1(1.0)	ND(1.0)	ND(2.0)	ND(100)
15A	TAL00EB002Q04	ND(1.0)	7.2(1.0)	ND(1.0)	ND(2.0)	ND(100)
16A	TAL00TB003Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)

Summary Tabular Analytical Report

Analytica Alaska Inc.
Work Order: A0011015

Project: FAA Tanana GWM

Client: CH2M Hill of Alaska

Client Project Number: FAA Tanana GWM

Analytical Method: DRO by AK 102

Sample Prep Method: 3510C

ID	Client Sample Name	UNITS:	mg/L
01B	TAL00MW001Q04	Diesel Range Organics	ND(0.10)
02B	TAL00MW002Q04		0.14(0.10)
03B	TAL00MW003Q04		0.20(0.10)
04B	TAL00MW004Q04		ND(0.11)
05B	TAL00MW005Q04		0.21(0.11)
06B	TAL00MW008Q04		4.1(0.11)
07B	TAL00MW009Q04		ND(0.11)
08B	TAL00MW010Q04		ND(0.11)
09B	TAL00MW011Q04		ND(0.11)
10B	TAL00MW014Q04		1.2(0.11)
11B	TAL00MW018Q04		4.2(0.10)
12B	TAL00MW042Q04		0.12(0.11)
13B	TAL00MW043Q04		ND(0.11)
14B	TAL00EB001Q04		ND(0.11)
15B	TAL00EB002Q04		ND(0.10)

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW001Q04	Collection Date:	11/2/00							
Lab Sample Number:	A0011015-01B	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 7:32:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110810.D							
Prep Batch Number:	A001108004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	ND		mg/L	0.10	0.031				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.046		mg/L	0.0052	0.0010	0.052	87.9	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MW002Q04	Collection Date:	11/2/00							
Lab Sample Number:	A0011015-02B	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 7:59:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110811.D							
Prep Batch Number:	A001108004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	0.14		mg/L	0.10	0.031				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.044		mg/L	0.0052	0.0010	0.052	84.4	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW003Q04	Collection Date:	11/2/00							
Lab Sample Number:	A0011015-03B	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 8:26:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110812.D							
Prep Batch Number:	A001108004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	0.20		mg/L	0.10	0.031				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.043		mg/L	0.0052	0.0010	0.052	83.0	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MW004Q04	Collection Date:	11/2/00							
Lab Sample Number:	A0011015-04B	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 8:53:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110813.D							
Prep Batch Number:	A001108004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	0.10	J	mg/L	0.11	0.032				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.043		mg/L	0.0053	0.0011	0.053	82.2	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW005Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-05B		Prep Date:	11/8/00						
Matrix:	Aqueous		Analysis Date:	11/8/00 9:20:00PM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:	W0110814.D						
Prep Batch Number:	A001108004		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.21		mg/L	0.11	0.032				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.046		mg/L	0.0053	0.0011	0.053	86.9	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MW008Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-06B		Prep Date:	11/8/00						
Matrix:	Aqueous		Analysis Date:	11/8/00 9:47:00PM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:	W0110815.D						
Prep Batch Number:	A001108004		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	4.1		mg/L	0.11	0.032				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.032		mg/L	0.0053	0.0011	0.053	60.8	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW009Q04	Collection Date:	11/2/00							
Lab Sample Number:	A0011015-07B	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 10:14:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110816.D							
Prep Batch Number:	A001108004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	ND		mg/L	0.11	0.032				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.038		mg/L	0.0053	0.0011	0.053	71.5	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MW010Q04	Collection Date:	11/2/00							
Lab Sample Number:	A0011015-08B	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 11:35:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110819.D							
Prep Batch Number:	A001108004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.092	J	mg/L	0.11	0.033				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.048		mg/L	0.0056	0.0011	0.056	86.8	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW011Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-09B		Prep Date:	11/8/00						
Matrix:	Aqueous		Analysis Date:	11/9/00 12:03:00AM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:	W0110820.D						
Prep Batch Number:	A001108004		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	0.081	J	mg/L	0.11	0.032				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.045		mg/L	0.0053	0.0011	0.053	84.7	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MW014Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-10B		Prep Date:	11/8/00						
Matrix:	Aqueous		Analysis Date:	11/9/00 12:30:00AM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:	W0110821.D						
Prep Batch Number:	A001108004		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	1.2		mg/L	0.11	0.032				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.037		mg/L	0.0053	0.0011	0.053	69.7	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW018Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-11B		Prep Date:	11/8/00						
Matrix:	Aqueous		Analysis Date:	11/9/00 12:57:00AM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:	W0110822.D						
Prep Batch Number:	A001108004		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	4.2		mg/L	0.10	0.031				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.034		mg/L	0.0052	0.0010	0.052	64.9	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MW042Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-12B		Prep Date:	11/8/00						
Matrix:	Aqueous		Analysis Date:	11/9/00 1:24:00AM						
Analytical Method ID:	DRO by AK 102		Instrument:	woof						
Prep Method ID:	3510		File Name:	W0110823.D						
Prep Batch Number:	A001108004		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.12		mg/L	0.11	0.033				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.048		mg/L	0.0054	0.0011	0.054	87.6	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW043Q04	Collection Date:	11/2/00							
Lab Sample Number:	A0011015-13B	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/9/00 1:51:00AM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110824.D							
Prep Batch Number:	A001108004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.090	J	mg/L	0.11	0.032				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.045		mg/L	0.0053	0.0011	0.053	85.4	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00EB001Q04	Collection Date:	11/2/00							
Lab Sample Number:	A0011015-14B	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/9/00 2:18:00AM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110825.D							
Prep Batch Number:	A001108004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	ND		mg/L	0.11	0.032				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.045		mg/L	0.0053	0.0011	0.053	83.8	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00EB002Q04	Collection Date:	11/2/00							
Lab Sample Number:	A0011015-15B	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/9/00 2:45:00AM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110826.D							
Prep Batch Number:	A001108004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	ND		mg/L	0.10	0.031				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.041		mg/L	0.0052	0.0010	0.052	78.6	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW001Q04	Collection Date:	11/2/00
Lab Sample Number:	A0011015-01A	Prep Date:	11/15/00
Matrix:	Aqueous	Analysis Date:	11/15/00 11:29:00AM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Boris
Prep Method ID:	5030	File Name:	B0111510.D
Prep Batch Number:	A001115001	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	105.6	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	102.1	60	120
Bromofluorobenzene(PID)	1072-85-1	96		ug/L	1.0	0.10	100	96.0	60	120
Bromofluorobenzene	1072-85-1	92		ug/L	1.0	0.10	100	92.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW002Q04	Collection Date:	11/2/00
Lab Sample Number:	A0011015-02A	Prep Date:	11/15/00
Matrix:	Aqueous	Analysis Date:	11/15/00 11:58:00AM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Boris
Prep Method ID:	5030	File Name:	B0111511.D
Prep Batch Number:	A001115001	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	106.9	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	102.6	60	120
Bromofluorobenzene	1072-85-1	94		ug/L	1.0	0.10	100	94.3	60	120
Bromofluorobenzene(PID)	1072-85-1	99		ug/L	1.0	0.10	100	99.3	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW003Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-03A		Prep Date:	11/15/00						
Matrix:	Aqueous		Analysis Date:	11/15/00 1:19:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111513.D						
Prep Batch Number:	A001115001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	2.6		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	59	J	ug/L	100	11				
Ethylbenzene	100-41-4	3.7		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	6.5		ug/L	2.0	0.70				
Surrogate Results:										
Difluorobenzene	540-36-3	53		ug/L	1.0	0.10	50	106.0	60	120
Difluorobenzene(PID)	540-36-3	52		ug/L	1.0	0.10	50	104.4	60	120
Bromofluorobenzene(PID)	1072-85-1	98		ug/L	1.0	0.10	100	98.0	60	120
Bromofluorobenzene	1072-85-1	100		ug/L	1.0	0.10	100	103.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW004Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-04A		Prep Date:	11/15/00						
Matrix:	Aqueous		Analysis Date:	11/15/00 1:48:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111514.D						
Prep Batch Number:	A001115001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	0.44	J	ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	1.5	J	ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	106.6	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.7	60	120
Bromofluorobenzene(PID)	1072-85-1	100		ug/L	1.0	0.10	100	102.1	60	120
Bromofluorobenzene	1072-85-1	97		ug/L	1.0	0.10	100	97.3	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW005Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-05A		Prep Date:	11/15/00						
Matrix:	Aqueous		Analysis Date:	11/15/00 2:16:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111515.D						
Prep Batch Number:	A001115001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	0.36	J	ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene(PID)	540-36-3	54		ug/L	1.0	0.10	50	107.6	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.7	60	120
Bromofluorobenzene(PID)	1072-85-1	100		ug/L	1.0	0.10	100	100.5	60	120
Bromofluorobenzene	1072-85-1	95		ug/L	1.0	0.10	100	95.5	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW008Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-06A		Prep Date:	11/15/00						
Matrix:	Aqueous		Analysis Date:	11/16/00 9:52:00AM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111607.D						
Prep Batch Number:	A001115001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	0.71	J	ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	560		ug/L	100	11				
Ethylbenzene	100-41-4	13		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	30		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.2	60	120
Difluorobenzene(PID)	540-36-3	54		ug/L	1.0	0.10	50	108.4	60	120
Bromofluorobenzene(PID)	1072-85-1	110		ug/L	1.0	0.10	100	107.7	60	120
Bromofluorobenzene	1072-85-1	100		ug/L	1.0	0.10	100	103.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW009Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-07A		Prep Date:	11/15/00						
Matrix:	Aqueous		Analysis Date:	11/15/00 3:25:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111517.D						
Prep Batch Number:	A001115001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
Surrogate Results:										
Difluorobenzene	540-36-3	52		ug/L	1.0	0.10	50	103.5	60	120
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	105.3	60	120
Bromofluorobenzene(PID)	1072-85-1	99		ug/L	1.0	0.10	100	99.0	60	120
Bromofluorobenzene	1072-85-1	94		ug/L	1.0	0.10	100	94.5	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW010Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-08A		Prep Date:	11/15/00						
Matrix:	Aqueous		Analysis Date:	11/15/00 3:53:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111518.D						
Prep Batch Number:	A001115001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene	540-36-3	52		ug/L	1.0	0.10	50	104.4	60	120
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	106.0	60	120
Bromofluorobenzene(PID)	1072-85-1	98		ug/L	1.0	0.10	100	97.8	60	120
Bromofluorobenzene	1072-85-1	96		ug/L	1.0	0.10	100	96.1	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW011Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-09A		Prep Date:	11/15/00						
Matrix:	Aqueous		Analysis Date:	11/15/00 4:21:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111519.D						
Prep Batch Number:	A001115001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene	540-36-3	53		ug/L	1.0	0.10	50	105.2	60	120
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	106.0	60	120
Bromofluorobenzene(PID)	1072-85-1	98		ug/L	1.0	0.10	100	97.7	60	120
Bromofluorobenzene	1072-85-1	96		ug/L	1.0	0.10	100	96.1	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW014Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-10A		Prep Date:	11/15/00						
Matrix:	Aqueous		Analysis Date:	11/15/00 5:47:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111522.D						
Prep Batch Number:	A001115001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	106.5	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	102.3	60	120
Bromofluorobenzene(PID)	1072-85-1	98		ug/L	1.0	0.10	100	98.0	60	120
Bromofluorobenzene	1072-85-1	95		ug/L	1.0	0.10	100	95.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW018Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-11A		Prep Date:	11/15/00						
Matrix:	Aqueous		Analysis Date:	11/15/00 6:16:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111523.D						
Prep Batch Number:	A001115001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	4.5		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	95	J	ug/L	100	11				
Ethylbenzene	100-41-4	4.4		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	9.0		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene(PID)	540-36-3	52		ug/L	1.0	0.10	50	104.4	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	102.2	60	120
Bromofluorobenzene(PID)	1072-85-1	96		ug/L	1.0	0.10	100	96.0	60	120
Bromofluorobenzene	1072-85-1	94		ug/L	1.0	0.10	100	94.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: **FAA Tanana GWM**
Client: **CH2M Hill of Alaska**
Client Project Number: **FAA Tanana GWM**

Report Section: Client Sample Report

Client Sample Name:	TAL00MW042Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-12A		Prep Date:	11/15/00						
Matrix:	Aqueous		Analysis Date:	11/15/00 6:44:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111524.D						
Prep Batch Number:	A001115001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene	540-36-3	52		ug/L	1.0	0.10	50	103.1	60	120
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	105.6	60	120
Bromofluorobenzene(PID)	1072-85-1	100		ug/L	1.0	0.10	100	101.0	60	120
Bromofluorobenzene	1072-85-1	95		ug/L	1.0	0.10	100	95.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW043Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-13A		Prep Date:	11/15/00						
Matrix:	Aqueous		Analysis Date:	11/15/00 7:12:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111525.D						
Prep Batch Number:	A001115001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
Surrogate Results:										
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	105.4	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.7	60	120
Bromofluorobenzene(PID)	1072-85-1	100		ug/L	1.0	0.10	100	100.0	60	120
Bromofluorobenzene	1072-85-1	94		ug/L	1.0	0.10	100	94.2	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00EB001Q04	Collection Date:	11/2/00
Lab Sample Number:	A0011015-14A	Prep Date:	11/15/00
Matrix:	Aqueous	Analysis Date:	11/15/00 7:40:00PM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Boris
Prep Method ID:	5030	File Name:	B0111526.D
Prep Batch Number:	A001115001	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	0.81	J	ug/L	1.0	0.21				
Toluene	108-88-3	9.1		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	35	J	ug/L	100	11				
Ethylbenzene	100-41-4	0.28	J	ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene	540-36-3	52		ug/L	1.0	0.10	50	103.3	60	120
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	106.7	60	120
Bromofluorobenzene(PID)	1072-85-1	99		ug/L	1.0	0.10	100	98.7	60	120
Bromofluorobenzene	1072-85-1	95		ug/L	1.0	0.10	100	94.7	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00EB002Q04		Collection Date:	11/2/00						
Lab Sample Number:	A0011015-15A		Prep Date:	11/15/00						
Matrix:	Aqueous		Analysis Date:	11/15/00 8:08:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111527.D						
Prep Batch Number:	A001115001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	0.78	J	ug/L	1.0	0.21				
Toluene	108-88-3	7.2		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	34	J	ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.4	60	120
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	106.9	60	120
Bromofluorobenzene(PID)	1072-85-1	98		ug/L	1.0	0.10	100	98.5	60	120
Bromofluorobenzene	1072-85-1	93		ug/L	1.0	0.10	100	92.8	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00TB003Q04	Collection Date:	11/2/00							
Lab Sample Number:	A0011015-16A	Prep Date:	11/15/00							
Matrix:	Aqueous	Analysis Date:	11/15/00 9:04:00PM							
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Boris							
Prep Method ID:	5030	File Name:	B0111529.D							
Prep Batch Number:	A001115001	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene	540-36-3	53		ug/L	1.0	0.10	50	105.9	60	120
Difluorobenzene(PID)	540-36-3	52		ug/L	1.0	0.10	50	104.2	60	120
Bromofluorobenzene(PID)	1072-85-1	95		ug/L	1.0	0.10	100	95.0	60	120
Bromofluorobenzene	1072-85-1	96		ug/L	1.0	0.10	100	96.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Method Blank Report

Client Sample Name:	MB	Collection Date:	11/8/00							
Lab Sample Number:	A001108004-MB	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 6:11:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110807.D							
Prep Batch Number:	A001108004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Diesel Range Organics	n/a	ND		mg/L	0.10	0.030				
Surrogate Results: o-Terphenyl	84-15-1	0.043		mg/L	0.0050	0.0010	0.050	86.7	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Method Blank Report

Client Sample Name:	MB	Collection Date:	11/15/00							
Lab Sample Number:	A001115001-MB	Prep Date:	11/15/00							
Matrix:	Aqueous	Analysis Date:	11/16/00 8:27:00AM							
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Boris							
Prep Method ID:	5030	File Name:	B0111604.D							
Prep Batch Number:	A001115001	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	106.8	60	120
Difluorobenzene	540-36-3	53		ug/L	1.0	0.10	50	105.6	60	120
Bromofluorobenzene(PID)	1072-85-1	98		ug/L	1.0	0.10	100	98.0	60	120
Bromofluorobenzene	1072-85-1	96		ug/L	1.0	0.10	100	96.1	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCS Report

Client Sample Name:	LCS	Collection Date:	11/8/00
Lab Sample Number:	A001108004-LCS	Prep Date:	11/8/00
Matrix:	Aqueous	Analysis Date:	11/8/00 6:38:00PM
Analytical Method ID:	DRO by AK 102	Instrument:	woof
Prep Method ID:	3510	File Name:	W0110808.D
Prep Batch Number:	A001108004	Dilution Factor:	1
RR #:	1		

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>
<u>Analyte Results:</u> Diesel Range Organics	n/a	1.5		mg/L	0.10	0.030	2.0		60	120
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.050		mg/L	0.0050	0.0010	0.050	100.3	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCS Report

Client Sample Name:	LCS	Collection Date:	11/15/00							
Lab Sample Number:	A001115001-LCS	Prep Date:	11/15/00							
Matrix:	Aqueous	Analysis Date:	11/16/00 8:55:00AM							
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Boris							
Prep Method ID:	5030	File Name:	B0111605.D							
Prep Batch Number:	A001115001	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	14		ug/L	1.0	0.21	14		60	120
Toluene	108-88-3	83		ug/L	1.0	0.36	85		60	120
Gasoline Range Organics	n/a	1,200		ug/L	100	11	1,100		75	125
Ethylbenzene	100-41-4	21		ug/L	1.0	0.14	20		60	120
Xylenes, Total	1330-20-7	100		ug/L	2.0	0.70	99		60	120
Surrogate Results:										
Difluorobenzene	540-36-3	53		ug/L	1.0	0.10	50	105.9	60	120
Difluorobenzene(PID)	540-36-3	54		ug/L	1.0	0.10	50	108.6	60	120
Bromofluorobenzene	1072-85-1	100		ug/L	1.0	0.10	100	100.9	60	120
Bromofluorobenzene(PID)	1072-85-1	93		ug/L	1.0	0.10	100	93.0	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCSD Report

Client Sample Name:	LCSD	Collection Date:	11/8/00							
Lab Sample Number:	A001108004-LCSD	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/8/00 7:05:00PM							
Analytical Method ID:	DRO by AK 102	Instrument:	woof							
Prep Method ID:	3510	File Name:	W0110809.D							
Prep Batch Number:	A001108004	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	1.6		mg/L	0.10	0.030	2.0		60	120
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.056		mg/L	0.0050	0.0010	0.050	112.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: **FAA Tanana GWM**
Client: **CH2M Hill of Alaska**
Client Project Number: **FAA Tanana GWM**

Report Section: LCSD Report

Client Sample Name:	LCSD	Collection Date:	11/15/00
Lab Sample Number:	A001115001-LCSD	Prep Date:	11/15/00
Matrix:	Aqueous	Analysis Date:	11/16/00 9:24:00AM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Boris
Prep Method ID:	5030	File Name:	B0111606.D
Prep Batch Number:	A001115001	Dilution Factor:	1
RR #:	1		

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>
<u>Analyte Results:</u>										
Benzene	71-43-2	14		ug/L	1.0	0.21	14		60	120
Toluene	108-88-3	79		ug/L	1.0	0.36	85		60	120
Gasoline Range Organics	n/a	1,200		ug/L	100	11	1,100		75	125
Ethylbenzene	100-41-4	22		ug/L	1.0	0.14	20		60	120
Xylenes, Total	1330-20-7	98		ug/L	2.0	0.70	99		60	120
<u>Surrogate Results:</u>										
Difluorobenzene(PID)	540-36-3	52		ug/L	1.0	0.10	50	104.8	60	120
Difluorobenzene	540-36-3	55		ug/L	1.0	0.10	50	109.0	60	120
Bromofluorobenzene(PID)	1072-85-1	90		ug/L	1.0	0.10	100	89.8	60	120
Bromofluorobenzene	1072-85-1	110		ug/L	1.0	0.10	100	105.7	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC Recovery Report

Work Order: A0011015

Prep Batch Number: A001108004

Base Sample A001108004-MB Anal. Method: DRO by AK 102
Spike Sample A001108004-LCS Sample Prep Date: 11/8/00 12:00:00AM
Spike Duplicate: A001108004-LCSD Analysis Units: mg/L
Matrix: Aqueous

LCS/LCSD Report

Analyte	Samp. Result	Spike Result	Sp. Dup Result	Spike Conc	Spike Recov	Spike Dup Conc	SpikeD Recov	RPD	LCL	UCL	RPD Lim.	Recov. Flag	RPD Flag
<u>Analytes</u>													
Diesel Range Organics	ND	1.5	1.6	2.0	74.5	2.0	76.9	3.2	60	120	20		
Surrogates:													
o-Terphenyl	0.043	0.050	0.056	0.050	100.0	0.050	112.0	11.3	60	120	20		

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC Recovery Report

Work Order: A0011015

Prep Batch Number: A001115001

Base Sample	A001115001-MB	Anal. Method:	GRO/BTEX by AK101/SW-8021B
Spike Sample	A001115001-LCS	Sample Prep Date:	11/15/00 12:00:00AM
Spike Duplicate:	A001115001-LCSD	Analysis Units:	ug/L

LCS/LCSD Report

Analyte	Samp. Result	Spike Result	Sp. Dup Result	Spike Conc	Spike Recov	Spike Dup Conc	SpikeD Recov	RPD	LCL	UCL	RPD Lim.	Recov. Flag	RPD Flag
Analytics													
Benzene	ND	14	14	14	99.6	14	103.4	3.7	60	120	20		
Toluene	ND	83	79	85	97.7	85	93.5	4.4	60	120	20		
Ethylbenzene	ND	21	22	20	102.0	20	105.7	3.6	60	120	20		
Xylenes, Total	ND	100	98	99	102.9	99	98.1	4.7	60	120	20		
Gasoline Range Organics	ND	1,200	1,200	1,100	106.4	1,100	105.6	0.7	75	125	20		
Surrogates:													
Difluorobenzene(PID)	53	54	52	50	108.0	50	104.0	3.8	60	120	20		
Bromofluorobenzene(PID)	98	93	90	100	93.0	100	90.0	3.3	60	120	20		
Bromofluorobenzene	96	100	110	100	100.0	100	110.0	9.5	60	120	20		
Difluorobenzene	53	53	55	50	106.0	50	110.0	3.7	60	120	20		

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 1,141 Lab Project Number: A0011015 Prep Date: 11/8/00

Test: DRO by AK 102

Lab Method Blank Id: A001108004-MB

Prep Batch ID: A001108004

Method: DRO by AK 102

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A001108004-LCS	LCS	W0110808.D	11/8/00 6:38:00PM
A001108004-LCSD	LCSD	W0110809.D	11/8/00 7:05:00PM
A0011015-01B	TAL00MW001Q04	W0110810.D	11/8/00 7:32:00PM
A0011015-02B	TAL00MW002Q04	W0110811.D	11/8/00 7:59:00PM
A0011015-03B	TAL00MW003Q04	W0110812.D	11/8/00 8:26:00PM
A0011015-04B	TAL00MW004Q04	W0110813.D	11/8/00 8:53:00PM
A0011015-05B	TAL00MW005Q04	W0110814.D	11/8/00 9:20:00PM
A0011015-06B	TAL00MW008Q04	W0110815.D	11/8/00 9:47:00PM
A0011015-07B	TAL00MW009Q04	W0110816.D	11/8/00 10:14:00PM
A0011015-08B	TAL00MW010Q04	W0110819.D	11/8/00 11:35:00PM
A0011015-09B	TAL00MW011Q04	W0110820.D	11/9/00 12:03:00AM
A0011015-10B	TAL00MW014Q04	W0110821.D	11/9/00 12:30:00AM
A0011015-11B	TAL00MW018Q04	W0110822.D	11/9/00 12:57:00AM
A0011015-12B	TAL00MW042Q04	W0110823.D	11/9/00 1:24:00AM
A0011015-13B	TAL00MW043Q04	W0110824.D	11/9/00 1:51:00AM
A0011015-14B	TAL00EB001Q04	W0110825.D	11/9/00 2:18:00AM
A0011015-15B	TAL00EB002Q04	W0110826.D	11/9/00 2:45:00AM

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID:	1,141	Lab Project Number:	A0011015	
Test:	GRO/BTEX by AK101/SW-8021B			Prep Date: 11/15/00
Lab Method Blank Id:	A001115001-MB			
Prep Batch ID:	A001115001			
Method:	GRO/BTEX by AK101/SW-8021B			
This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:				
SampleNum	ClientSampleName	DataFile	AnalysisDate	
A0011015-01A	TAL00MW001Q04	B0111510.D	11/15/00 11:29:00AM	
A0011015-02A	TAL00MW002Q04	B0111511.D	11/15/00 11:58:00AM	
A0011015-03A	TAL00MW003Q04	B0111513.D	11/15/00 1:19:00PM	
A0011015-04A	TAL00MW004Q04	B0111514.D	11/15/00 1:48:00PM	
A0011015-02A	TAL00MW002Q04	B0111515.D	11/15/00 2:16:00PM	
A0011015-05A	TAL00MW005Q04	B0111515.D	11/15/00 2:16:00PM	
A0011015-07A	TAL00MW009Q04	B0111517.D	11/15/00 3:25:00PM	
A0011015-08A	TAL00MW010Q04	B0111518.D	11/15/00 3:53:00PM	
A0011015-09A	TAL00MW011Q04	B0111519.D	11/15/00 4:21:00PM	
A0011015-10A	TAL00MW014Q04	B0111522.D	11/15/00 5:47:00PM	
A0011015-11A	TAL00MW018Q04	B0111523.D	11/15/00 6:16:00PM	
A0011015-12A	TAL00MW042Q04	B0111524.D	11/15/00 6:44:00PM	
A0011015-13A	TAL00MW043Q04	B0111525.D	11/15/00 7:12:00PM	
A0011015-14A	TAL00EB001Q04	B0111526.D	11/15/00 7:40:00PM	
A0011015-15A	TAL00EB002Q04	B0111527.D	11/15/00 8:08:00PM	
A0011015-16A	TAL00TB003Q04	B0111529.D	11/15/00 9:04:00PM	
A001115001-LCS	LCS	B0111605.D	11/16/00 8:55:00AM	
A001115001-LCSD	LCSD	B0111606.D	11/16/00 9:24:00AM	
A0011015-06A	TAL00MW008Q04	B0111607.D	11/16/00 9:52:00AM	

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011015

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

DATA FLAGS AND DEFINITIONS

Result Field:

ND = Not Detected at or above the Reporting Limit Shown
NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Low Control Limit
HIGH = Recovery , RPD, or other parameter is above Upper Control Limit
E = Reported concentration is above the instrument calibration upper range
DIL = Sample required dilution to bring analytes within calibration range of the instrument.
At the dilution level required, the surrogate could not be quantified due to the resulting low surrogate concentration and/or coelution interference from the sample.

Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank
J = Analyte was detected above 2 x MDL but below the Reporting Limit (Quant Limit)

Inorganic Analysis Flags:

B = Analyte was detected above the MDL or IDL but below the Reporting Limit
W = Post digestion spike did not meet criteria
S = Reported value determined by the Method of Standard Additions (MSA)





Analytica Alaska Incorporated
website: www.analyticagroup.com

ANALYTICA
ALASKA INC.

811 W. 8th Avenue, Anchorage, AK 99501 • (907) 258-2155 • FAX (907) 258-6634

CH2M Hill of Alaska
301 W. Northern Lights Blvd.
Suite 601
Anchorage, AK 99503
Attn: Win Westervelt

RECEIVED BY
CH2M HILL AK
NOV 30 2000

Work Order #: A0011017
Date: 11/27/00
Work ID: FAA Tanana GWM
Date Received: 11/7/00

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
A0011017-01	TAL00MW006Q04	A0011017-02	TAL00MW007Q04
A0011017-03	TAL00MW016Q04	A0011017-04	TAL00MW017Q04
A0011017-05	TAL00MW044Q04	A0011017-06	TAL00EB003Q04
A0011017-07	TAL00TB004Q04(Trip Blank)		

Enclosed are the analytical results for the submitted sample(s). Please review the CASE NARRATIVE for a discussion of any data and/or quality control issues. Listings of data qualifiers, analytical codes, key dates, and QC relationships are provided at the end of the report.

Sincerely,

Jason Gray
Project Manager

Case Narrative

Work Order: A0011017

ADEC Laboratory Approval Number: UST-014

The samples were received properly packed in a cooler at 8.3°C and were refrigerated upon receipt.

All quality control objectives were met for this project.

HOLDING TIMES

All samples were analyzed within the test method prescribed holding time.

INITIAL CALIBRATION

All samples met the test method acceptance criteria.

CONTINUING CALIBRATION

All samples met the test method acceptance criteria.

METHOD BLANKS

No detectable quantities of sought for analytes were found in the blanks. In AK102 extraction batch A001116001, DRO was detected in the method blank at levels below the PQL but above 2x the MDL. ADEC methodology for these analysis specifies only that the method blank must be below the PQL.

QC SPIKE SAMPLES

All samples met the test method acceptance criteria.

MS/MSD

No MS/MSD samples were provided or requested.

SURROGATE RECOVERIES

All sample surrogate recovery was within the test method acceptance criteria.

COMPLETENESS

All of the results associated with this project are 100 percent useable.

Analyst _____

Date 11/28/00

Analyst _____

Date 11/28/00

Summary Tabular Analytical Report

Analytica Alaska Inc.
Work Order: A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Analytical Method: DRO by AK 102
Sample Prep Method: 3510C

ID	Client Sample Name	UNITS: mg/L	Diesel Range
01B	TAL00MW006Q04	2.5(0.11)	Organics
02B	TAL00MW007Q04	ND(0.11)	
03B	TAL00MW016Q04	ND(0.11)	
04B	TAL00MW017Q04	1.8(0.11)	
05B	TAL00MW044Q04	ND(0.10)	
06B	TAL00EB003Q04	ND(0.11)	

Summary Tabular Analytical Report

Analytica Alaska Inc.
Work Order: A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Analytical Method: BTX/GAS Water (8021)
Sample Prep Method: 5030B

UNITS: ug/L

ID	Client Sample Name	Benzene	Toluene	Ethyl Benzene	Xylenes	Gasoline Range Organics
01A	TAL000MW006Q04	ND(1.0)	ND(1.0)	2.4(1.0)	5.5(2.0)	160(100)
02A	TAL000MW007Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
03A	TAL000MW016Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
04A	TAL000MW017Q04	ND(1.0)	ND(1.0)	4.6(1.0)	22(2.0)	1,900(100)
05A	TAL000MW044Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
06A	TAL000EB003Q04	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
07A	TAL000TB004Q04(Tr1	ND(1.0)	ND(1.0)	ND(1.0)	ND(2.0)	ND(100)
	Blank)					

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW006Q04		Collection Date:	11/3/00						
Lab Sample Number:	A0011017-01B		Prep Date:	11/8/00						
Matrix:	Aqueous		Analysis Date:	11/9/00 6:21:43PM						
Analytical Method ID:	DRO by AK 102		Instrument:	Roo						
Prep Method ID:	3510		File Name:	R0110980.D						
Prep Batch Number:	A001109002		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	2.5		mg/L	0.11	0.032				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.045		mg/L	0.0053	0.0011	0.053	85.4	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MW007Q04		Collection Date:	11/3/00						
Lab Sample Number:	A0011017-02B		Prep Date:	11/8/00						
Matrix:	Aqueous		Analysis Date:	11/9/00 6:38:58PM						
Analytical Method ID:	DRO by AK 102		Instrument:	Roo						
Prep Method ID:	3510		File Name:	R0110981.D						
Prep Batch Number:	A001109002		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.086	J	mg/L	0.11	0.032				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.044		mg/L	0.0053	0.0011	0.053	82.1	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW016Q04	Collection Date:	11/3/00							
Lab Sample Number:	A0011017-03B	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/9/00 6:56:06PM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110982.D							
Prep Batch Number:	A001109002	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.088	J	mg/L	0.11	0.032				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.040		mg/L	0.0053	0.0011	0.053	76.7	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00MW017Q04	Collection Date:	11/3/00							
Lab Sample Number:	A0011017-04B	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/9/00 7:13:33PM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110983.D							
Prep Batch Number:	A001109002	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	1.8		mg/L	0.11	0.032				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.040		mg/L	0.0053	0.0011	0.053	74.7	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW044Q04		Collection Date:	11/3/00						
Lab Sample Number:	A0011017-05B		Prep Date:	11/8/00						
Matrix:	Aqueous		Analysis Date:	11/10/00 11:54:02AM						
Analytical Method ID:	DRO by AK 102		Instrument:	Roo						
Prep Method ID:	3510		File Name:	R0111061.D						
Prep Batch Number:	A001109002		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.090	J	mg/L	0.10	0.031				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.038		mg/L	0.0052	0.0010	0.052	73.8	50	150

Report Section: Client Sample Report

Client Sample Name:	TAL00EB003Q04		Collection Date:	11/3/00						
Lab Sample Number:	A0011017-06B		Prep Date:	11/8/00						
Matrix:	Aqueous		Analysis Date:	11/9/00 7:47:59PM						
Analytical Method ID:	DRO by AK 102		Instrument:	Roo						
Prep Method ID:	3510		File Name:	R0110985.D						
Prep Batch Number:	A001109002		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	0.066	J	mg/L	0.11	0.032				
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.039		mg/L	0.0053	0.0011	0.053	75.0	50	150

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW006Q04		Collection Date:	11/3/00						
Lab Sample Number:	A0011017-01A		Prep Date:	11/16/00						
Matrix:	Aqueous		Analysis Date:	11/16/00 10:21:00AM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111608.D						
Prep Batch Number:	A001116001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	0.43	J	ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	160		ug/L	100	11				
Ethylbenzene	100-41-4	2.4		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	5.5		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene	540-36-3	53		ug/L	1.0	0.10	50	105.9	60	120
Difluorobenzene(PID)	540-36-3	52		ug/L	1.0	0.10	50	103.8	60	120
Bromofluorobenzene(PID)	1072-85-1	99		ug/L	1.0	0.10	100	99.4	60	120
Bromofluorobenzene	1072-85-1	110		ug/L	1.0	0.10	100	108.1	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: **FAA Tanana GWM**
Client: **CH2M Hill of Alaska**
Client Project Number: **FAA Tanana GWM**

Report Section: Client Sample Report

Client Sample Name:	TAL00MW007Q04		Collection Date:	11/3/00						
Lab Sample Number:	A0011017-02A		Prep Date:	11/16/00						
Matrix:	Aqueous		Analysis Date:	11/16/00 10:55:00AM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111609.D						
Prep Batch Number:	A001116001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
Surrogate Results:										
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	106.8	60	120
Difluorobenzene	540-36-3	52		ug/L	1.0	0.10	50	103.4	60	120
Bromofluorobenzene(PID)	1072-85-1	100		ug/L	1.0	0.10	100	99.7	60	120
Bromofluorobenzene	1072-85-1	100		ug/L	1.0	0.10	100	100.5	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW016Q04	Collection Date:	11/3/00
Lab Sample Number:	A0011017-03A	Prep Date:	11/16/00
Matrix:	Aqueous	Analysis Date:	11/16/00 11:23:00AM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Boris
Prep Method ID:	5030	File Name:	B0111610.D
Prep Batch Number:	A001116001	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
<u>Surrogate Results:</u>										
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	105.8	60	120
Difluorobenzene	540-36-3	52		ug/L	1.0	0.10	50	104.1	60	120
Bromofluorobenzene(PID)	1072-85-1	98		ug/L	1.0	0.10	100	98.1	60	120
Bromofluorobenzene	1072-85-1	96		ug/L	1.0	0.10	100	96.2	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW017Q04		Collection Date:	11/3/00						
Lab Sample Number:	A0011017-04A		Prep Date:	11/16/00						
Matrix:	Aqueous		Analysis Date:	11/16/00 11:52:00AM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111611.D						
Prep Batch Number:	A001116001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	1,900		ug/L	100	11				
Ethylbenzene	100-41-4	4.6		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	22		ug/L	2.0	0.70				
Surrogate Results:										
Difluorobenzene(PID)	540-36-3	56		ug/L	1.0	0.10	50	113.0	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	101.8	60	120
Bromofluorobenzene(PID)	1072-85-1	84		ug/L	1.0	0.10	100	84.3	60	120
Bromofluorobenzene	1072-85-1	110		ug/L	1.0	0.10	100	112.9	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00MW044Q04		Collection Date:	11/3/00						
Lab Sample Number:	A0011017-05A		Prep Date:	11/16/00						
Matrix:	Aqueous		Analysis Date:	11/16/00 1:45:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111615.D						
Prep Batch Number:	A001116001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	48	J	ug/L	100	11				
Ethylbenzene	100-41-4	0.52	J	ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	1.7	J	ug/L	2.0	0.70				
Surrogate Results:										
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	106.7	60	120
Difluorobenzene	540-36-3	52		ug/L	1.0	0.10	50	103.5	60	120
Bromofluorobenzene(PID)	1072-85-1	98		ug/L	1.0	0.10	100	98.1	60	120
Bromofluorobenzene	1072-85-1	96		ug/L	1.0	0.10	100	96.1	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00EB003Q04		Collection Date:	11/3/00						
Lab Sample Number:	A0011017-06A		Prep Date:	11/16/00						
Matrix:	Aqueous		Analysis Date:	11/16/00 2:13:00PM						
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B		Instrument:	Boris						
Prep Method ID:	5030		File Name:	B0111616.D						
Prep Batch Number:	A001116001		Dilution Factor:	1						
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
Surrogate Results:										
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	107.0	60	120
Difluorobenzene	540-36-3	52		ug/L	1.0	0.10	50	103.4	60	120
Bromofluorobenzene(PID)	1072-85-1	98		ug/L	1.0	0.10	100	98.2	60	120
Bromofluorobenzene	1072-85-1	93		ug/L	1.0	0.10	100	93.0	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Client Sample Report

Client Sample Name:	TAL00TB004Q04(Trip Blank)	Collection Date:	11/3/00
Lab Sample Number:	A0011017-07A	Prep Date:	11/16/00
Matrix:	Aqueous	Analysis Date:	11/16/00 4:03:00PM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Boris
Prep Method ID:	5030	File Name:	B0111617.D
Prep Batch Number:	A001116001	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
Surrogate Results:										
Difluorobenzene(PID)	540-36-3	53		ug/L	1.0	0.10	50	106.8	60	120
Difluorobenzene	540-36-3	54		ug/L	1.0	0.10	50	107.2	60	120
Bromofluorobenzene(PID)	1072-85-1	98		ug/L	1.0	0.10	100	98.3	60	120
Bromofluorobenzene	1072-85-1	96		ug/L	1.0	0.10	100	95.9	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Method Blank Report

Client Sample Name:	MB	Collection Date:	11/8/00							
Lab Sample Number:	A001109002-MB	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/9/00 2:36:58PM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110969.D							
Prep Batch Number:	A001109002	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	0.074	J	mg/L	0.10	0.030				
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.045		mg/L	0.0050	0.0010	0.050	90.7	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: Method Blank Report

Client Sample Name:	MB	Collection Date:	11/16/00							
Lab Sample Number:	A001116001-MB	Prep Date:	11/16/00							
Matrix:	Aqueous	Analysis Date:	11/17/00 5:58:00PM							
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Boris							
Prep Method ID:	5030	File Name:	B0111722.D							
Prep Batch Number:	A001116001	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
Analyte Results:										
Benzene	71-43-2	ND		ug/L	1.0	0.21				
Toluene	108-88-3	ND		ug/L	1.0	0.36				
Gasoline Range Organics	n/a	ND		ug/L	100	11				
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.14				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.70				
Surrogate Results:										
Difluorobenzene	540-36-3	52		ug/L	1.0	0.10	50	104.0	60	120
Difluorobenzene(PID)	540-36-3	54		ug/L	1.0	0.10	50	107.9	60	120
Bromofluorobenzene	1072-85-1	94		ug/L	1.0	0.10	100	94.4	60	120
Bromofluorobenzene(PID)	1072-85-1	99		ug/L	1.0	0.10	100	99.3	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCS Report

Client Sample Name:	LCS	Collection Date:	11/8/00							
Lab Sample Number:	A001109002-LCS	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/9/00 3:11:57PM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110970.D							
Prep Batch Number:	A001109002	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Diesel Range Organics	n/a	1.4		mg/L	0.10	0.030	2.0		60	120
<u>Surrogate Results:</u>										
o-Terphenyl	84-15-1	0.050		mg/L	0.0050	0.0010	0.050	100.7	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCS Report

Client Sample Name:	LCS	Collection Date:	11/16/00
Lab Sample Number:	A001116001-LCS	Prep Date:	11/16/00
Matrix:	Aqueous	Analysis Date:	11/17/00 6:26:00PM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Boris
Prep Method ID:	5030	File Name:	B0111723.D
Prep Batch Number:	A001116001	Dilution Factor:	1
RR #:	1		

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>
<u>Analyte Results:</u>										
Benzene	71-43-2	15		ug/L	1.0	0.21	14		60	120
Toluene	108-88-3	80		ug/L	1.0	0.36	85		60	120
Gasoline Range Organics	n/a	1,200		ug/L	100	11	1,100		75	125
Ethylbenzene	100-41-4	22		ug/L	1.0	0.14	20		60	120
Xylenes, Total	1330-20-7	98		ug/L	2.0	0.70	99		60	120
<u>Surrogate Results:</u>										
Difluorobenzene	540-36-3	52		ug/L	1.0	0.10	50	103.8	60	120
Difluorobenzene(PID)	540-36-3	52		ug/L	1.0	0.10	50	104.3	60	120
Bromofluorobenzene(PID)	1072-85-1	90		ug/L	1.0	0.10	100	90.1	60	120
Bromofluorobenzene	1072-85-1	100		ug/L	1.0	0.10	100	100.1	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCSD Report

Client Sample Name:	LCSD	Collection Date:	11/8/00							
Lab Sample Number:	A001109002-LCSD	Prep Date:	11/8/00							
Matrix:	Aqueous	Analysis Date:	11/9/00 3:28:52PM							
Analytical Method ID:	DRO by AK 102	Instrument:	Roo							
Prep Method ID:	3510	File Name:	R0110971.D							
Prep Batch Number:	A001109002	Dilution Factor:	1							
RR #:	1									
Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u> Diesel Range Organics	n/a	1.6		mg/L	0.10	0.030	2.0		60	120
<u>Surrogate Results:</u> o-Terphenyl	84-15-1	0.050		mg/L	0.0050	0.0010	0.050	99.4	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

Report Section: LCSD Report

Client Sample Name:	LCSD	Collection Date:	11/16/00
Lab Sample Number:	A001116001-LCSD	Prep Date:	11/16/00
Matrix:	Aqueous	Analysis Date:	11/17/00 6:55:00PM
Analytical Method ID:	GRO/BTEX by AK101/SW-8021B	Instrument:	Boris
Prep Method ID:	5030	File Name:	B0111724.D
Prep Batch Number:	A001116001	Dilution Factor:	1
RR #:	1		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL
<u>Analyte Results:</u>										
Benzene	71-43-2	14		ug/L	1.0	0.21	14		60	120
Toluene	108-88-3	81		ug/L	1.0	0.36	85		60	120
Gasoline Range Organics	n/a	1,200		ug/L	100	11	1,100		75	125
Ethylbenzene	100-41-4	22		ug/L	1.0	0.14	20		60	120
Xylenes, Total	1330-20-7	100		ug/L	2.0	0.70	99		60	120
<u>Surrogate Results:</u>										
Difluorobenzene(PID)	540-36-3	54		ug/L	1.0	0.10	50	107.7	60	120
Difluorobenzene	540-36-3	51		ug/L	1.0	0.10	50	102.0	60	120
Bromofluorobenzene(PID)	1072-85-1	92		ug/L	1.0	0.10	100	91.8	60	120
Bromofluorobenzene	1072-85-1	100		ug/L	1.0	0.10	100	101.7	60	120

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC Recovery Report

Work Order:A0011017

Prep Batch Number: A001109002

Base Sample A001109002-MB Anal. Method: DRO by AK 102
Spike Sample A001109002-LCS Sample Prep Date: 11/8/00 12:00:00AM
Spike Duplicate: A001109002-LCSD Analysis Units: mg/L
Matrix: Aqueous

LCS/LCSD Report

Analyte	Samp. Result	Spike Result	Sp. Dup Result	Spike Conc	Spike Recov	Spike Dup Conc	SpikeD Recov	RPD	LCL	UCL	RPD Lim.	Recov. Flag	RPD Flag
Analytes													
Diesel Range Organics	0.074	1.4	1.6	2.0	66.2	2.0	75.0	12.4	60	120	20		
Surrogates:													
o-Terphenyl	0.045	0.050	0.050	0.050	100.0	0.050	100.0	0.0	60	120	20		

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC Recovery Report

Work Order: A0011017

Prep Batch Number: A001116001

Base Sample	A001116001-MB	Anal. Method:	GRO/BTEX by AK101/SW-8021B
Spike Sample	A001116001-LCS	Sample Prep Date:	11/16/00 12:00:00AM
Spike Duplicate:	A001116001-LCSD	Analysis Units:	ug/L

LCS/LCSD Report

Analyte	Samp. Result	Spike Result	Sp. Dup Result	Spike Conc	Spike Recov	Spike Dup Conc	SpikeD Recov	RPD	LCL	UCL	RPD Lim.	Recov. Flag	RPD Flag
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Analytes

Benzene	ND	15	14	14	104.8	14	102.7	2.0	60	120	20
Toluene	ND	80	81	85	93.9	85	95.5	1.7	60	120	20
Ethylbenzene	ND	22	22	20	106.1	20	107.8	1.7	60	120	20
Xylenes, Total	ND	98	100	99	98.5	99	100.3	1.8	60	120	20
Gasoline Range Organics	ND	1,200	1,200	1,100	105.5	1,100	106.5	1.0	75	125	20

Surrogates:

Difluorobenzene(PID)	54	52	54	50	104.0	50	108.0	3.8	60	120	20
Bromofluorobenzene(PID)	99	90	92	100	90.0	100	92.0	2.2	60	120	20
Bromofluorobenzene	94	100	100	100	100.0	100	100.0	0.0	60	120	20
Difluorobenzene	52	52	51	50	104.0	50	102.0	1.9	60	120	20

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: FAA Tanana GWM
Client: CH2M Hill of Alaska
Client Project Number: FAA Tanana GWM

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 1,152 Lab Project Number: A0011017

Test: DRO by AK 102 Prep Date: 11/8/00
Lab Method Blank Id: A001109002-MB
Prep Batch ID: A001109002
Method: DRO by AK 102

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A001109002-LCS	LCS	R0110970.D	11/9/00 3:11:57PM
A001109002-LCSD	LCSD	R0110971.D	11/9/00 3:28:52PM
A0011017-01B	TAL00MW006Q04	R0110980.D	11/9/00 6:21:43PM
A0011017-02B	TAL00MW007Q04	R0110981.D	11/9/00 6:38:58PM
A0011017-03B	TAL00MW016Q04	R0110982.D	11/9/00 6:56:06PM
A0011017-04B	TAL00MW017Q04	R0110983.D	11/9/00 7:13:33PM
A0011017-06B	TAL00EB003Q04	R0110985.D	11/9/00 7:47:59PM
A0011017-05B	TAL00MW044Q04	R0111061.D	11/10/00 11:54:02AM

Test: GRO/BTEX by AK101/SW-8021B Prep Date: 11/16/00

Lab Method Blank Id: A001116001-MB
Prep Batch ID: A001116001
Method: GRO/BTEX by AK101/SW-8021B

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
A0011017-01A	TAL00MW006Q04	B0111608.D	11/16/00 10:21:00AM
A0011017-02A	TAL00MW007Q04	B0111609.D	11/16/00 10:55:00AM
A0011017-03A	TAL00MW016Q04	B0111610.D	11/16/00 11:23:00AM
A0011017-04A	TAL00MW017Q04	B0111611.D	11/16/00 11:52:00AM
A0011017-05A	TAL00MW044Q04	B0111615.D	11/16/00 1:45:00PM
A0011017-06A	TAL00EB003Q04	B0111616.D	11/16/00 2:13:00PM
A0011017-07A	TAL00TB004Q04(Trip Blank)	B0111617.D	11/16/00 4:03:00PM
A001116001-LCS	LCS	B0111723.D	11/17/00 6:26:00PM
A001116001-LCSD	LCSD	B0111724.D	11/17/00 6:55:00PM

Detailed Analytical Report

Analytica Alaska Inc.
Workorder (SDG): A0011017

Project: **FAA Tanana GWM**
Client: **CH2M Hill of Alaska**
Client Project Number: **FAA Tanana GWM**

DATA FLAGS AND DEFINITIONS

Result Field:

ND = Not Detected at or above the Reporting Limit Shown
NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Low Control Limit
HIGH = Recovery , RPD, or other parameter is above Upper Control Limit
E = Reported concentration is above the instrument calibration upper range
DIL = Sample required dilution to bring analytes within calibration range of the instrument.
At the dilution level required, the surrogate could not be quantified due to the resulting low surrogate concentration and/or coelution interference from the sample.

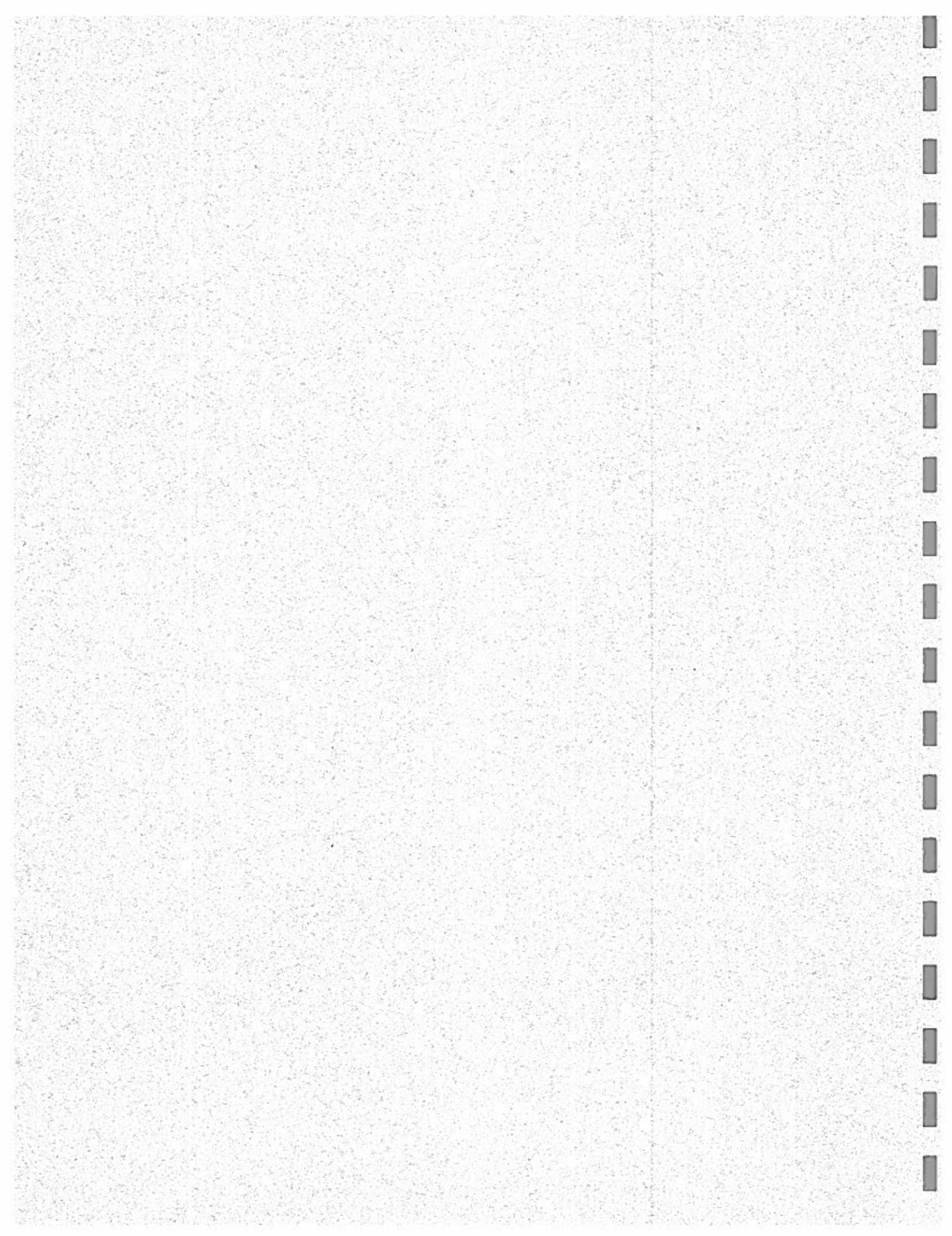
Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank
J = Analyte was detected above 2 x MDL but below the Reporting Limit (Quant Limit)

Inorganic Analysis Flags:

B = Analyte was detected above the MDL or IDL but below the Reporting Limit
W = Post digestion spike did not meet criteria
S = Reported value determined by the Method of Standard Additions (MSA)

ATTACHMENT 2
LABORATORY DATA VALIDATION REVIEW



Laboratory Data Validation Review

This report summarizes a review of analytical results for groundwater samples collected November 1 through 3, 2000 for the Federal Aviation Association (FAA) Tanana groundwater monitoring project, number 808164. Samples were collected by CH2-OH, and submitted to Analytica Alaska, Inc. (Analytica) in Anchorage, Alaska. Samples were analyzed for the following parameters: diesel-range organics (DRO) by Alaska Method (AK)102; gasoline range organics (GRO) by AK101; and benzene, toluene, ethylbenzene, and xylenes (BTEX) by Environmental Protection Agency (EPA) Method SW8021. Analytica reports A0011012, A0011005, A0011015, and A0011017 were reviewed. The table summarizes sample identification, laboratory-assigned sample numbers, dates collected, and qualifiers.

Quality Assurance Program

A quality assurance (QA) program was followed that addressed project administration, sampling protocols, data review, and data QA. Sample QA was provided by CH2-OH through strict adherence to sampling protocols. Chain-of-custody (COC) procedures were followed as an integral part of the QA program.

Data validation consisted of the following:

- Verifying that quality control (QC) blanks were properly prepared, identified, and analyzed
- Reviewing COC records for completeness, signatures, and dates

Data Qualifications

The comments presented in this report refer to field procedures and the laboratory's performance in meeting the QC specifications. The sample results were reviewed using the following documents:

- EPA Document 530/SW-846, Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, fourth edition (EPA, November 1991)
- EPA Document 540/R-94/012, EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (EPA, February 1994)
- EPA Document 540/R-94/013, EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (EPA, February 1994)

Data qualifiers were not assigned to results in these reports.



Data Validation

Data Package

The data packages were checked for transcription errors, omissions, or other anomalies. No anomalies were found.

Holding Times and Preservation

Samples were appropriately preserved and stored in iced coolers until arrival at Analytica. Sample analyses were conducted within holding time criteria.

Laboratory Method Blanks

Laboratory method blanks were analyzed at the appropriate frequencies. No analytes were detected in method blanks at or above the practical quantification limits (PQL).

Trip Blanks

Trips blanks were analyzed at the appropriate frequencies. No analytes were detected in trip blanks at or above the PQL.

Surrogate Recovery Results

Surrogate analyses were performed at the required frequencies, and the results were within Analytica percent recovery acceptance limits.

Matrix Spike/Matrix Spike Duplicate

Matrix spike and matrix spike duplicate (MS/MSD) analyses were not performed on these samples.

Field Duplicates

No field duplicates were collected. No-purge split samples were collected from four monitoring wells instead, per instructions from the FAA Onsite Technical Monitor.

Overall Assessment

The data are judged to be acceptable for use.

Precision, Accuracy, and Completeness

- **Precision:** Precision goals were met.
- **Accuracy:** Accuracy goals were met.
- **Completeness:** Completeness goals were met.



Table
Sample Summary

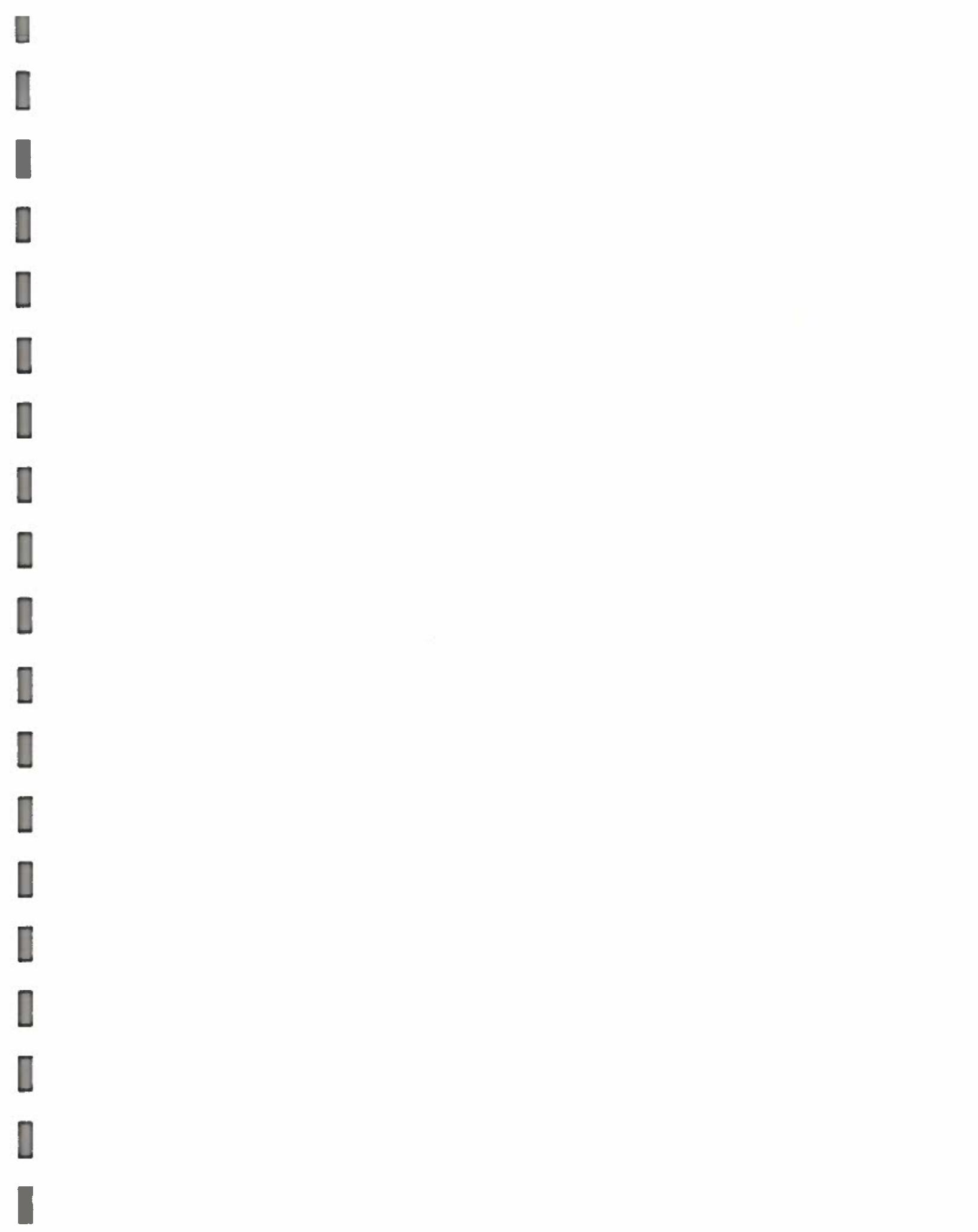
Sample ID	Matrix	Laboratory ID	Date Collected	Analyte	Qualifier
TAL00MW012Q04	Water	A001101201	11/1/00	NQ	NQ
TAL00MW013Q04	Water	A001101202	11/1/00	NQ	NQ
TAL00MW015Q04	Water	A001101203	11/1/00	NQ	NQ
TAL00MW019Q04	Water	A001101204	11/1/00	NQ	NQ
TAL00MP008Q04	Water	A001101205	11/1/00	NQ	NQ
TAL00MP012Q04	Water	A001101206	11/1/00	NQ	NQ
TAL00MP015Q04	Water	A001101207	11/1/00	NQ	NQ
TAL00MP023Q04	Water	A001101208	11/1/00	NQ	NQ
TAL00MP025Q04	Water	A001101209	11/1/00	NQ	NQ
TAL00MP028Q04	Water	A001101210	11/1/00	NQ	NQ
TAL00MP029Q04	Water	A001101211	11/1/00	NQ	NQ
TAL00MP001Q04	Water	A001100501	11/1/00	NQ	NQ
TAL00MP006Q04	Water	A001100502	11/1/00	NQ	NQ
TAL00MP018Q04	Water	A001100503	11/1/00	NQ	NQ
TAL00MP009Q04	Water	A001100504	11/1/00	NQ	NQ
TAL00MP010Q04	Water	A001100505	11/1/00	NQ	NQ
TAL00MP017Q04	Water	A001100506	11/1/00	NQ	NQ
TAL00MP024Q04	Water	A001100507	11/1/00	NQ	NQ
TAL00MP014Q04	Water	A001100508	11/1/00	NQ	NQ
TAL00MP016Q04	Water	A001100509	11/1/00	NQ	NQ
TAL00MP041Q04	Water	A001100510	11/1/00	NQ	NQ
TAL00MP003Q04	Water	A001100511	11/1/00	NQ	NQ
TAL00MW001Q04	Water	A001101501	11/2/00	NQ	NQ
TAL00MW002Q04	Water	A001101502	11/2/00	NQ	NQ
TAL00MW003Q04	Water	A001101503	11/2/00	NQ	NQ
TAL00MW004Q04	Water	A001101504	11/2/00	NQ	NQ
TAL00MW005Q04	Water	A001101505	11/2/00	NQ	NQ
TAL00MW008Q04	Water	A001101506	11/2/00	NQ	NQ
TAL00MW009Q04	Water	A001101507	11/2/00	NQ	NQ
TAL00MW010Q04	Water	A001101508	11/2/00	NQ	NQ
TAL00MW011Q04	Water	A001101509	11/2/00	NQ	NQ



Sample ID	Matrix	Laboratory ID	Date Collected	Analyte	Qualifier
TAL00MW014Q04	Water	A001101510	11/2/00	NQ	NQ
TAL00MW018Q04	Water	A001101511	11/2/00	NQ	NQ
TAL00MW042Q04	Water	A001101512	11/2/00	NQ	NQ
TAL00MW043Q04	Water	A001101513	11/2/00	NQ	NQ
TAL00EB001Q04	Water	A001101514	11/2/00	NQ	NQ
TAL00EB002Q04	Water	A001101515	11/2/00	NQ	NQ
TAL00EB003Q04	Water	A001101516	11/2/00	NQ	NQ
TAL00MW006Q04	Water	A001101701	11/3/00	NQ	NQ
TAL00MW007Q04	Water	A001101702	11/3/00	NQ	NQ
TAL00MW016Q04	Water	A001101703	11/3/00	NQ	NQ
TAL00MW017Q04	Water	A001101704	11/3/00	NQ	NQ
TAL00MW044Q04	Water	A001101705	11/3/00	NQ	NQ
TAL00EB003Q04	Water	A001101706	11/3/00	NQ	NQ

NQ denotes no qualification necessary.









MW019

MW015

MP002
MP001
MW020(STATE)
MP006
MP003
SHOP BLDG. #206

BLDG.

PAINT HOUSE (STATE)
GARAGE (STATE)

STREAM

TO AIRPORT AND FSS BUILDING

MW009

MW010
MP015
MP007FORMER GREENHOUSE (REMOVED)
MW013

SHOP BLDG. #106

QUARTERS #100

QUARTERS #101

QUARTERS #102

QUARTERS #103

QUARTERS #104

QUARTERS #105

BLDG. #30 (REMOVED)

MW003
MW002
(REMOVED)

LEGEND

- MW014 Monitoring Well Location
 MP008 ▲ Monitoring Probe

MW018

TO TANANA

MW001

MW002

MW003

MW004

MW005

MW006

MW007

MW008

MW009

MW010

MW011

MW012

MW013

MW014

MW015

MW016

MW017

MW018

MW019

MW020



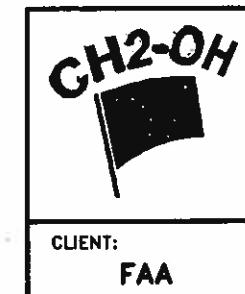
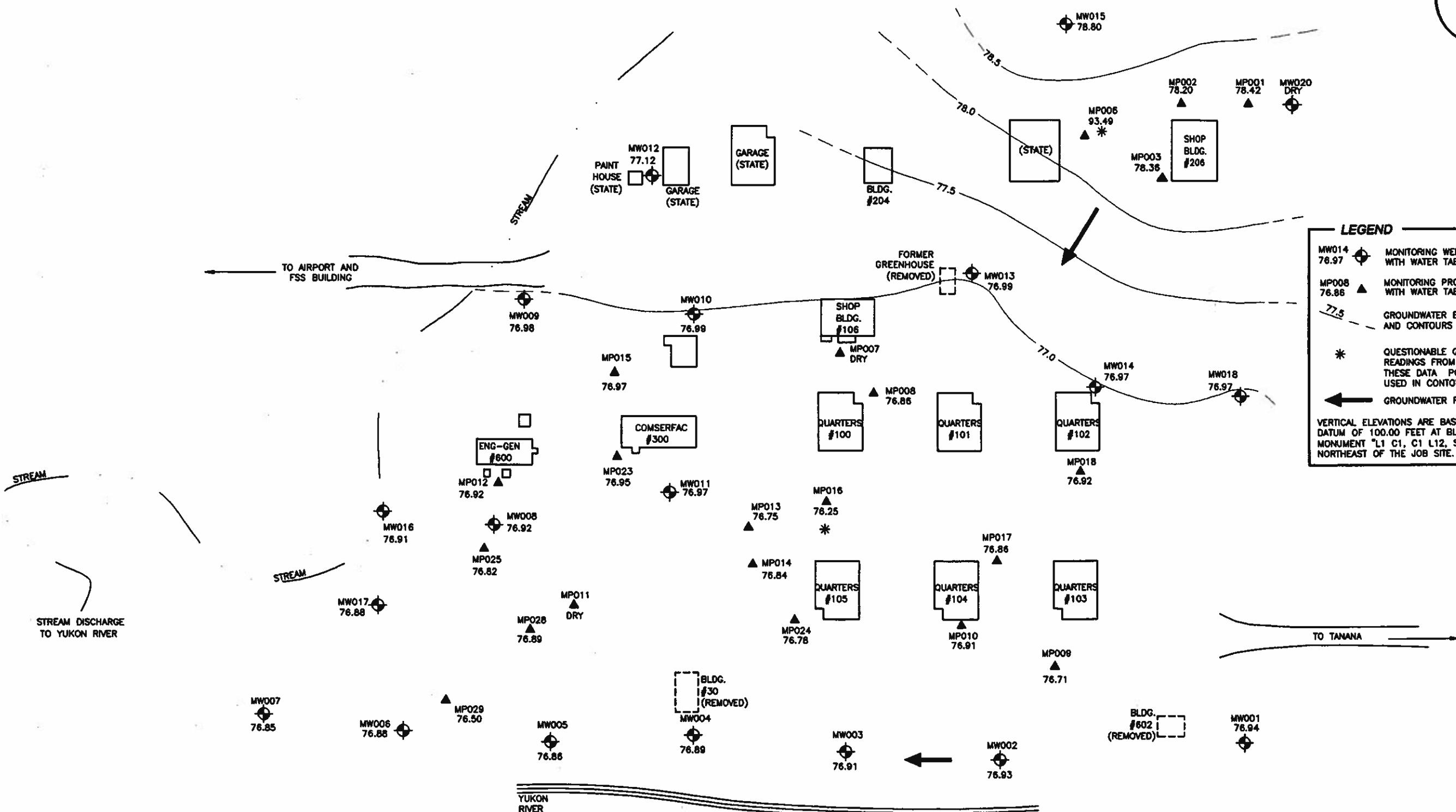
GROUNDWATER MONITORING PROBE AND WELL LOCATIONS - SITE MAP

LIVING QUARTERS AREA, TANANA FAA STATION
Tanana, Alaska70 0 35 70
SCALE: 1" = 70'CLIENT:
FAA

PROJECT MANAGER:	APPROVED:	DESIGNED:	SCALE:	REVISION:	FIGURE:
W. WESTERVELT	L. NICHOLSON	L. NICHOLSON	1" = 70'	0	
CLIENT:	PROJECT NO.:	DRAWN:	DATE:	FILE:	
FAA	810845	R. BEST	10-10-00	810845_012_02.DWG	1



MW019
78.72



GROUNDWATER ELEVATION CONTOUR MAP OCTOBER 30-31, 2000

LIVING QUARTERS AREA, TANANA FAA STATION
Tanana, Alaska

SOURCE: ORIGINAL DRAWING PROVIDED BY;
CH2-OH, FEBRUARY 2000 SAMPLING EVENT
FIGURE 1

PROJECT MANAGER:	APPROVED:	DESIGNED:	SCALE:	REVISION:	FIGURE:
W. WESTERVELT	L. NICHOLSON	T. WEGLARZ	1" = 70'	0	2
CLIENT:	DRAWN:	DATE:	FILE:		
FAA	R. BEST	12-28-00	810845_012_05.DWG		